GB

Installation and Operating Manual

Fastrax IV

1/4” Day/Night High Speed Dome Camera
EDC-4222, EDC-4362

eneo

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(PL) Instrukcja instalacji i obsługi

⇒ www.videor.com
www.eneo-security.com

1. Safety Instructions / Maintenance

- Read these safety instructions and the operation manual first before you install and commission the camera.
- Keep the manual in a safe place for later reference.
- Protect your camera from contamination with water and humidity to prevent it from permanent damage.
  Never switch the camera on when it gets wet. Have it checked at an authorized service center in this case.
- Never operate the camera outside of the specifications as this may prevent the camera functioning.
- Do not operate the cameras beyond their specified temperature, humidity or power ratings.
- Operate the camera only at a temperature range of 0°C to +50°C and at a humidity of max. 90%.
- To disconnect the power cord of the unit, pull it out by the plug. Never pull the cord itself.
- Pay attention when laying the connection cable and observe that the cable is not subject to heavy loads, kinks, or damage and no moisture can get in.
- Do not attempt to disassemble the camera board from the dome.
- The warranty becomes void if repairs are undertaken by unauthorized persons. Do not open the camera housing.
- Never point the camera towards the sun with the aperture open. This can destroy the sensor.
- Installation, maintenance and repair have to be carried out only by authorized service centers.
  Before opening the cover disconnect the unit from mains input.
- Contact your local dealer in case of malfunction.
- Only use original parts and original accessories from Videor E. Hartig GmbH.
- Do not use strong or abrasive detergents when cleaning the dome. Use a dry cloth to clean the dome surface.
  In case the dirt is hard to remove, use a mild detergent and wipe gently.
- All openings provided in the housing for assembly purposes must be closed and/or sealed.
- **The installer is responsible for ensuring that the degree of protection as per the technical specifications is upheld, e.g. by using all enclosed gasket seals and O-rings, by waterproofing the cable exits with silicon or through laying the cable in such a way that the cable does not act as a „gutter".**
- **During assembly, care must be taken to ensure that existing seals are correctly inserted and are not displaced as a result of assembly.**
  You must not continue to use damaged seals.

NOTE: This is a class A digital device. This digital device can cause harmful interference in a residential area;
in this case the user may be required to take appropriate corrective action at his/her own expense.

2. Introduction

2.1 Features

The Fastrax IV dome camera and the keyboard controller make up the building blocks for any surveillance/security system. Using multiple Keyboard Controllers and multiple dome cameras, no place is too large for monitoring. Extensible and flexible architecture facilitates remote control functions for a variety of external switching devices such as multiplexers and DVRs.

- Built-in optical power zoom camera with True Night Shot function
- 240 Preset positions (Individual AE and Event)
- 8 Tours consist of Preset, Pattern, Auto-Scan and other Tours can be programmed with over 300 functions and Preset location.
  While moving, each Preset scan can be watched in smooth **Vector Scan** mode.
- 16 Auto Scans with the normal, the vector, and the **random** mode and the Endless Auto-Pan with 13 speed steps
- 8 Patterns (up to 500seconds)
- 8 Privacy zones
- Motion Detection (Bounding Box, Trace)
- Auto Tracking and Cross Tracking
- Video Analytics Function (Cross, Enter, Abandon and Removal)
- DIS (Digital Image Stabilization) Function
- Function Scheduling
- 16 Area Titles
- 8 Alarm inputs / 4 Aux outs (NC & NO)
- Variable speed from 0.1°/sec to 380°/sec
  Three Variable speed (SLOW, NORMAL, TURBO). Turbo speed is Max 380°/sec with CTRL key pressed
- Pan / Tilt speed is inversely proportional to the zoom ratio with the option.
- Maximum speed is 380°/sec when preset command
- Auto Calibration from 0.1° to 6° (Tilt range is 0° to 180°)
- Programmable user preferences (alarm, preset, title, etc.)
- 180° Digital Flip or 90° Auto Flip depended on the model
- Up to 999 selectable camera addresses (3999 by software setting)

- Multi-Language Menu Display, Password Confirmation
- Function Run Menu using DVR without function key (Pattern, SCAN, ...)
- Coaxial Communication with Coaxitron of Pelco & Fastrax
- Built-in RS-485/422 receiver driver
- Optional Clear bubble with black liner (shelter) for concealing the camera
- Optional Tinted Bubble, Indoor & Outdoor pendant housing with heater & blower, Indoor Flush mount, Parapet mount & Roof Top mount

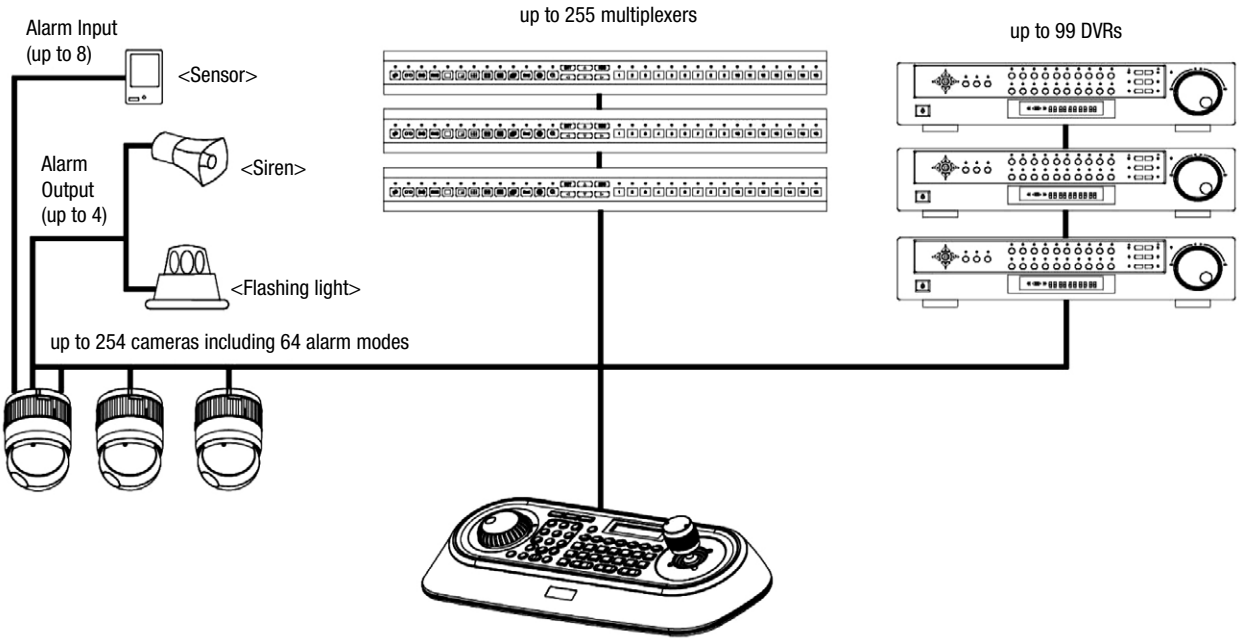


Figure 1 - Typical System Configuration

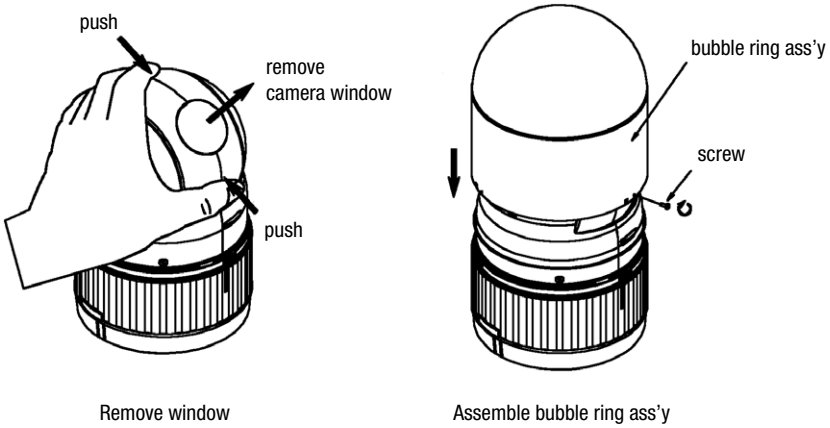


Figure 2 - Optional Assemble bubble ring ass'y

NOTE: It is recommended to remove camera window for improving picture quality when you assemble bubble ring ass'y.

CAUTION: When installing a Fastrax dome on a high pole outside, caution should be taken to avoid vibration and shaking of Fastrax dome due to windload or shock of passing heavy vehicles. If pole is not stable enough, it may cause malfunction in accurate tilt positioning.

3. Installation and Configuration

3.1 Package Contents

The package contains the following:

1x Fastrax IV (Dome Camera)

1x Bubble ring (optional)

1x Instruction manual (this document)

3x Assembly screws for attaching Fastrax IV

3x Plastic anchor

1x 10Pin Connector

2x 12Pin Connector

CAUTION: Be sure to have caution labels (E version only) on both body and base of the camera.
Different version will not support alarm input and output.

The dome camera is for use in surface mounting applications and the mounting surface should be capable of supporting loads up to 4.5kg.

The dome camera's base should be attached to a structural object, such as a hard wood, wall stud or ceiling rafter that supports the weight of the dome camera.

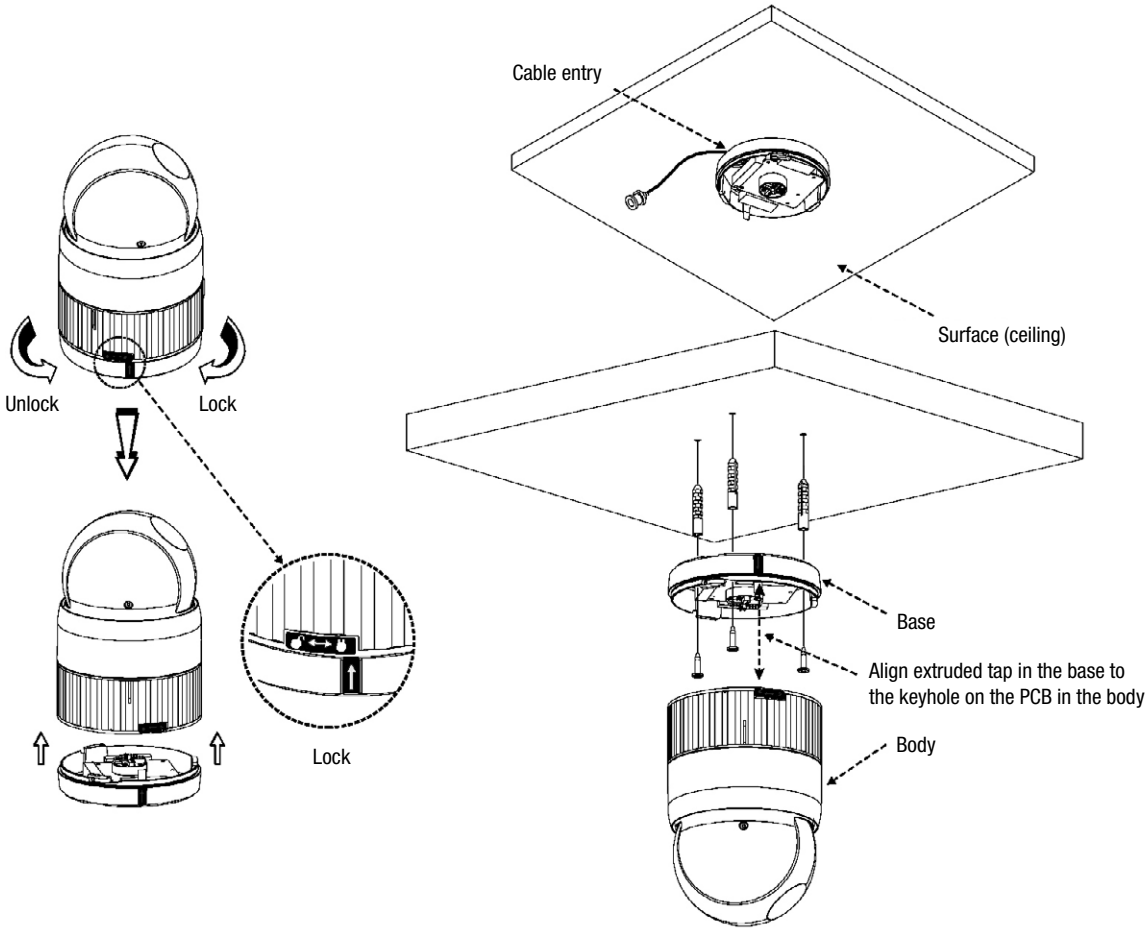


Figure 3 - Installation

3.2 Basic Configuration of Fastrax IV Dome Camera System

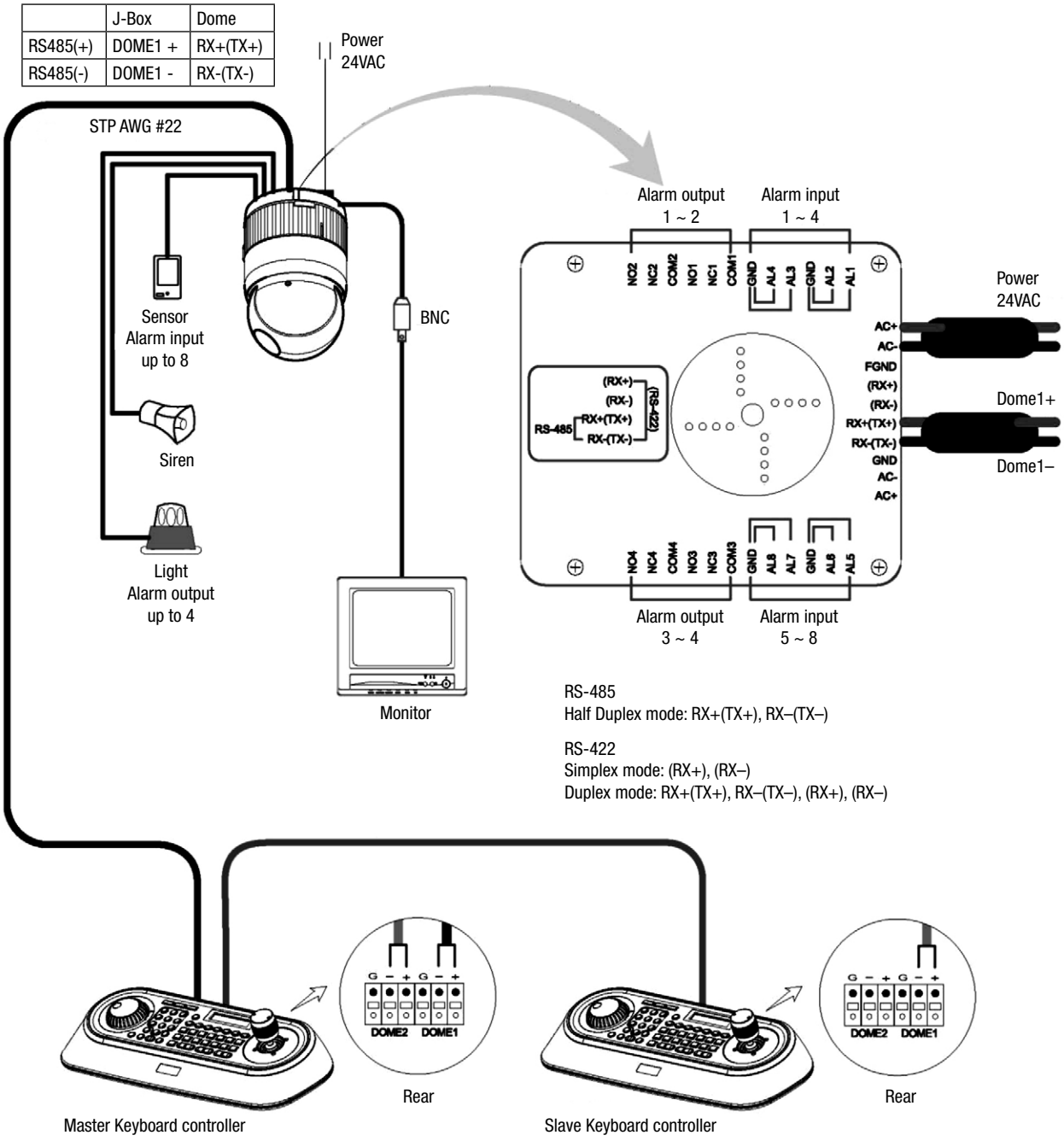


Figure 4 - Basic installation diagram

The dome camera must be installed by qualified service personnel in accordance with all local and federal electrical and building codes.
The system should be installed according to Figures 4 through 9.

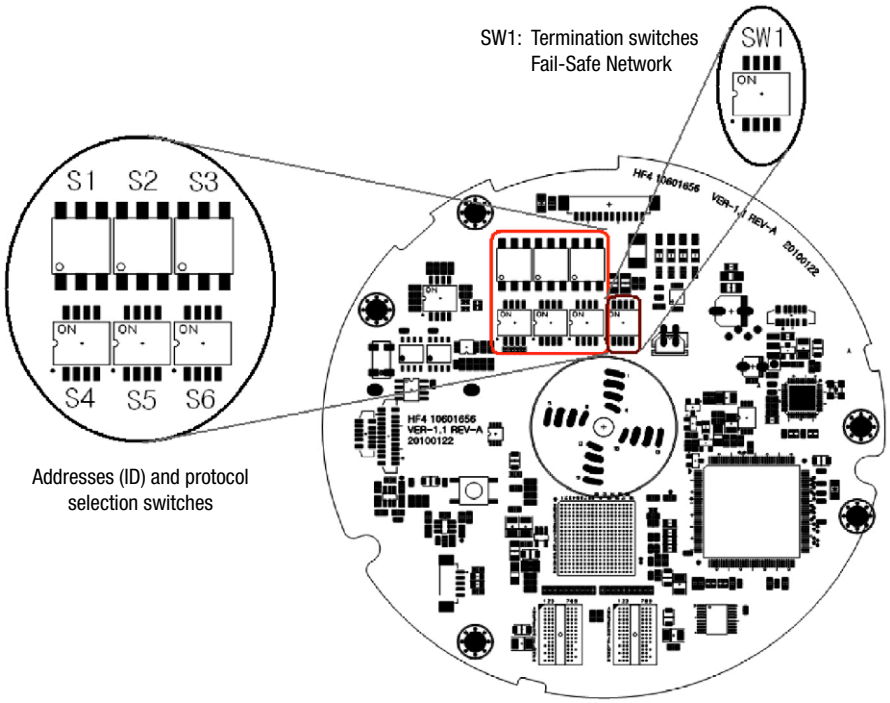


Figure 5 - Layout of Switches

3.3 Setting Dome Camera Termination

The device which is connected at end of line, whether it be a dome camera or keyboard controller, must have the cable for communication terminated by setting the appropriate DIP switch. Without proper termination, there is potential for control signal errors. Total length of the cable for communication should not exceed 1.2km.

SW1

SW1	SW1-1	SW1-2
Terminated	ON	ON
Not terminated	OFF	OFF

Figure 6 - Setting Dome Camera Termination

3.4 Fail-safe Network

When you control the dome by the other device not own keyboard, some error may be existed in the serial communication. The reason is caused by the other device without the fail-safe network.

At this time, you solve the problem to set this DIP switch to ON of the nearest dome from the other device only.

SW1

SW1	SW1-3	SW1-4
ON	PULL-UP	PULL-DOWN
OFF	NONE	NONE

Figure 7 - Setting Dome Camera Termination

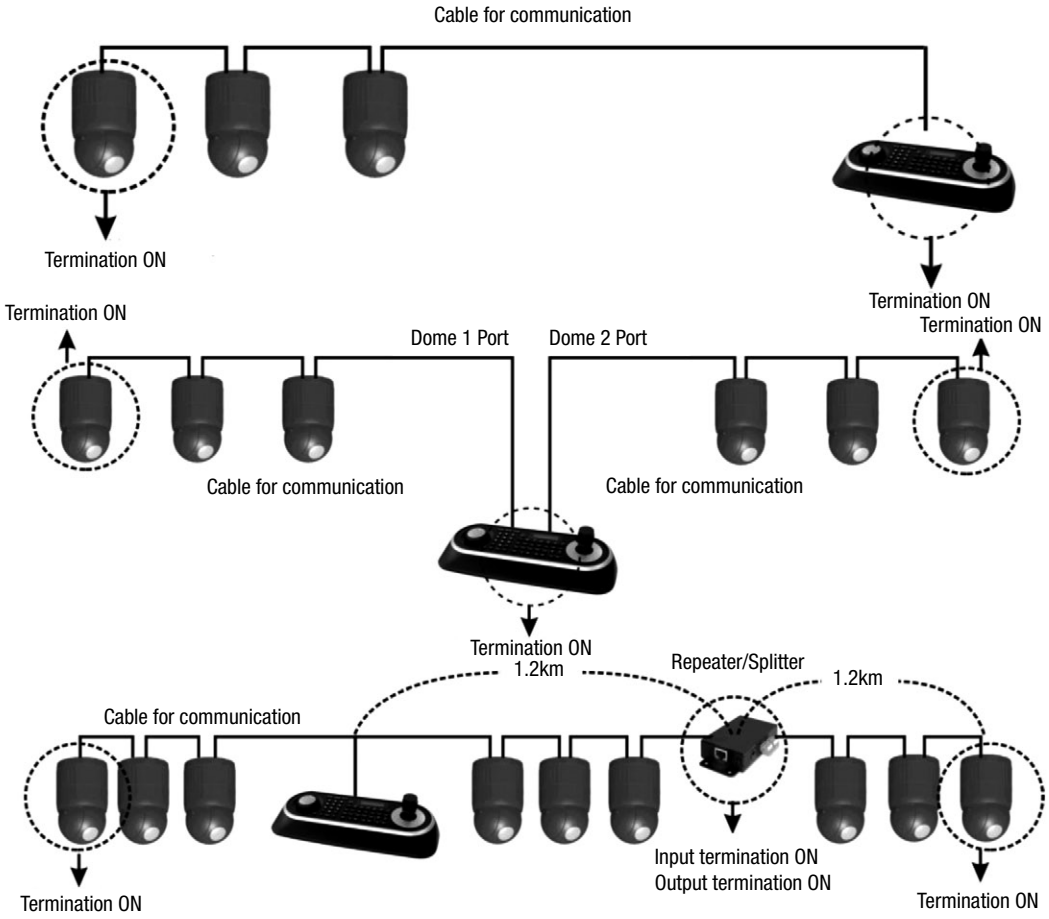


Figure 8 - Termination Diagram

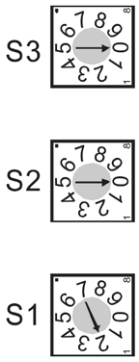
3.5 Setting Dome Camera Address (ID)

To prevent damage, each dome camera must have a unique address (ID). When installing multiple dome cameras using a multiplexer, it is suggested that the dome camera address matches the multiplexer port number.

If you want to set the address more than 999, you should connect the service provider.

Example: Port 1 = Dome 1, Port 2 = Dome 2 ... Port 16 = Dome 16. If more than 16 dome cameras are installed using two or more multiplexers, ID of the dome camera should be ID of MUX x No. of camera IN. (e.g. multiplexer ID= n, Camera IN= m then ID of Dome =16x (n-1) +m)

Refer to Figures 4-5 for setting the dome camera address (ID) and protocol selection.



Dome ID	S3	S2	S1
1	0	0	1
2	0	0	2
…	…	…	…
999	9	9	9

Figure 9 - Setting Dome Camera Address (ID)

3.6 Setting Dome Camera Protocol

If a dome camera is to be installed with a Fastrax keyboard controller, select the default protocol.
Consult service personnel if a dome camera is installed with device other than a keyboard controller.

S/W		On	Off	Function
D1	S4-1	Enable	Disable	Alarm
D2	S4-2	PAL	NTSC	NTSC/PAL
D3	S4-3			(Reserved)
D4	S4-4	RS-422	RS-485	RS-422/RS-485

D5	D6	D7	D12	Protocol
S5-1	S5-2	S5-3	S6-4	
Off	Off	Off	Off	F2, F2E, Pelco-D, Pelco-P: **(Default)**
Off	Off	On	Off	F2, F2E
Off	On	Off	Off	Sensormatic RS-422
Off	On	On	Off	Pelco-D, Pelco-P
On	Off	Off	Off	Vicon
On	Off	On	Off	Ernitec
On	On	Off	Off	(Reserved)
On	On	On	Off	F2
Off	Off	Off	On	**Philips (Bosch)**
Off	Off	On	On	(Reserved)
Off	On	Off	On	**Dynacolor**
Off	On	On	On	(Reserved)

D8	D9	D10	Baud Rate
S5-4	S6-1	S6-2	
Off	Off	Off	2400 bps
Off	Off	On	4800 bps
Off	On	Off	9600 bps **(Default)**
Off	On	On	19200 bps
On	Off	Off	38400 bps

D11	Parity Bit
S6-3	
Off	None
On	Even

Figure 10 - Protocol Selection Switches

3.7 Connections

- **Connecting to the RS-485/-422**

  The dome camera can be controlled remotely by an external device or control system, such as a control keyboard, using RS-485 half-duplex, RS-422 full duplex or simplex serial communications signals. Connect Marked Tx+, Tx- to Tx+(Rx+) and Tx-(Rx-) of the RS-485 control system.

  If control system is RS-422, connect Rx+(Tx+), Rx+ (Tx-) and Rx+, Rx- of the dome camera to Rx+, Rx- and Tx+, Tx- of the control device respectively.

- **Connecting Video out connector**

  Connect the video out (BNC) connector to the monitor or video input.

- **Connecting Alarms**

  AL1 to 8 (Alarm In)

  You can use external devices to signal the dome camera to react on events. Mechanical or electrical switches can be wired to the AL (Alarm In) and GND (Ground) connectors. See Chapter 4 - Program and Operation for configuring alarm input.

  GND (Ground)

  NOTE: All the connectors marked GND are common.

  Connect the ground side of the Alarm input and/or alarm output to the GND connector.

  NC(NO)1 TO 4 (Normal Close or Normal Open: Alarm Out)

  The dome camera can activate external devices such as buzzers or lights. Connect the device to the NC(NO) (Alarm Out) and COM (Common) connectors. See Chapter 4 - Program and Operation for configuring alarm output.

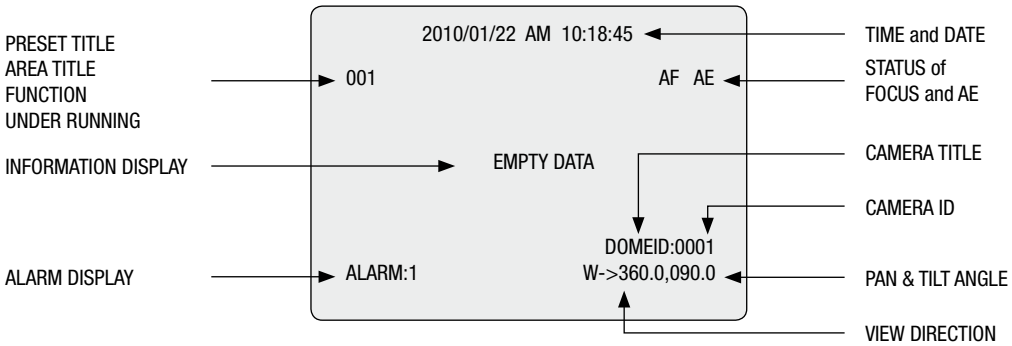
- **Connecting the Power**

  Connect the power of 24VAC 850mA to the dome camera.

  Use certified / Listed Class 2 power source only.

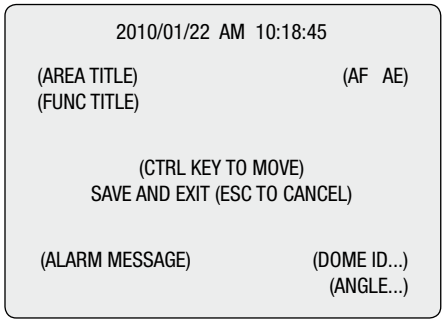
3.8 Getting Started

Once installed apply power to the dome camera. The dome camera will start a configuration sequence.



OSD Position

The dome can move the OSD position in the OSD position setup.



OSD Position Setup

4. Program and Operation

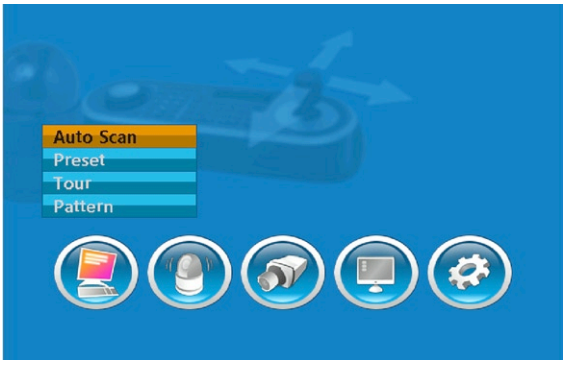
4.1 Dome Camera Selection

Before you program or operate a dome camera, you must select the dome camera by pressing the dome camera **No.** + **CAM**.

Example: Pressing **1**, **0** and **CAM** key sequentially will select dome camera 10. The selected dome camera ID will be displayed on the LCD monitor of the keyboard controller.

4.2 Accessing On-Screen Menu Utility

You can call up the On-screen menu utility on your monitor by pressing **MENU** key on the keyboard controller, the following On-screen menu utility will appear:

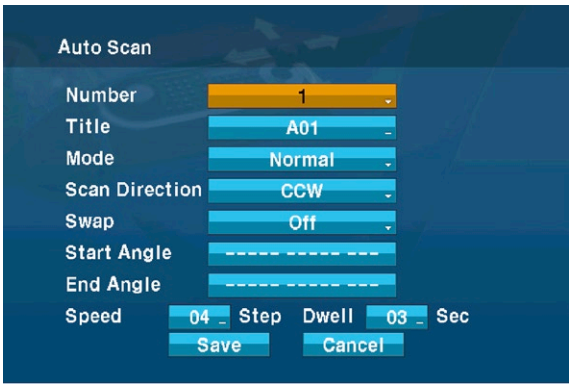


4.3 How to control On-Screen Menu Utility

Button	Function
MENU	Call on On-screen menu utility
Joystick up or down	Navigate through the menu items.
Joystick handle twist	Go into the sub-menu items.
Joystick left or right or Zoom handle twist	Change value. Enter the editing title mode.
CTRL + Joystick	Change value of angle.
IRIS Open	Enter the changing angle mode.
IRIS Close	Exit the changing angle mode.
ESC (EXIT)	Escape, return to the previous menu

4.4 Auto Scan (Shortcut: **SCAN**)

The Auto scan supports up to 17 programmed angles at user-programmable speeds.



NUMBER 01-08, 10-17, **09**: AUTO PAN mode

TITLE up to 12 characters

MODE NORMAL, VECTOR, RANDOM (AUTO PAN mode: NORMAL, RANDOM only)

NORMAL: Move from start point to end point in panning only.

VECTOR: Move from start point to end point including tilt and zoom simultaneously and linearly. In some models, the zoom is fixed at wider angle and the zoom magnification information is not displayed.

RANDOM: Move randomly between the start point and the end point.

SCAN DIR Set the scan direction, CCW (Counterclockwise), CW (Clockwise)

SWAP Swap the start point for the end point.

START ANGLE Set the start angle

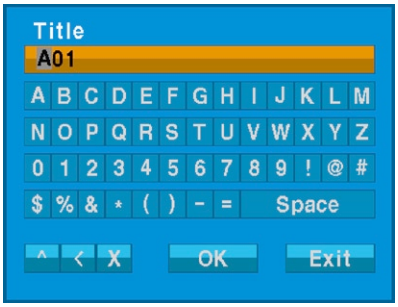
END ANGLE Set the end angle

SPEED 1 - 17 step, the lower number means the slower speed.

DWELL Set the dwell time in the tour mode, 01 – 99 seconds

Follow these steps to program Auto Scan:

1. Press the **SCAN** key to enter AUTO SCAN menu directly. Or press the **MENU** key to display the main menu on the monitor. Scroll to AUTO SCAN and then twist the **Joystick**.
2. Select the „NUMBER" and set the desired number by pushing the **Joystick** left or right.
3. Select the „TITLE" and twist the **Joystick** to enter the title edit mode.
4. Select the „ ^ " to the characters table(an upper case & lower case) or select the „ < " to delete at the desired character then the cursor position moves to the left. Or select the „X" to delete the desired character without move. Push the **Joystick** left or right at the „Exit" field to finish title edit menu without save or select the „OK" to finish title edit menu with save.

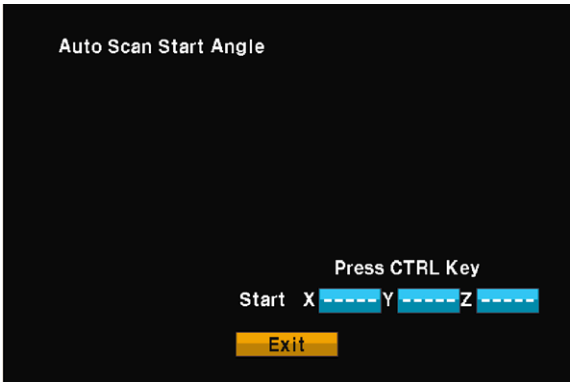


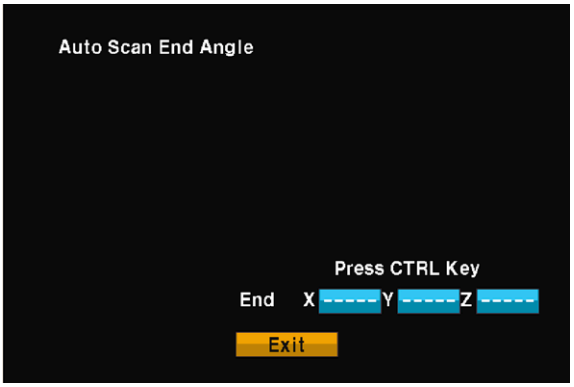
5. Select „MODE".
6. Set „SCAN DIR" to CCW or CW.
7. Select „SWAP". Set to ON, to exchange the start angle and the end angle.
8. Select „START ANGLE" and push the **Joystick** left or right. Hold down the **CTRL** key while selecting the start position using the **Joystick**. Current panning position will be displayed. Release **CTRL** key to complete the selection of the start position. Or Press **IRIS Open** then the „CTRL" displays. Move the desired position and the zoom position. Press **IRIS Close** then the „CTRL" disappears. To adjust at the 0.1 degree interval, twist the **Joystick** at the pan field and the tilt field. To adjust at the one zoom interval, twist the **Joystick** at the zoom field. Push the **Joystick** left or right at the „Exit" field to finish "auto scan start angle" menu.

9. Select „END ANGLE” and push the **Joystick** left or right. Hold down the **CTRL** key while moving the Joystick to select the end position. The end position angle should be larger than start position. Release the **CTRL** key to complete the selection of the end position. Or Press **IRIS Open** then the „CTRL” displays. Move the desired position and the zoom position. Press **IRIS Close** then the „CTRL” disappears. To adjust at the 0.1 degree interval, twist the **Joystick** at the pan field and the tilt field. To adjust at the one zoom interval, twist the **Joystick** at the zoom field. Push the **Joystick** left or right at the „Exit” field to finish „auto scan end angle” menu.
10. Select „SPEED”.
11. Set „DWELL TIME”.
12. Select Save and Exit and push the **Joystick** to the right or press **IRIS Open**. Press **ESC** or **IRIS Close** to exit the program without saving. Pressing the **HOME** key delete stored data at the angle field.

To set the position using the preset position:

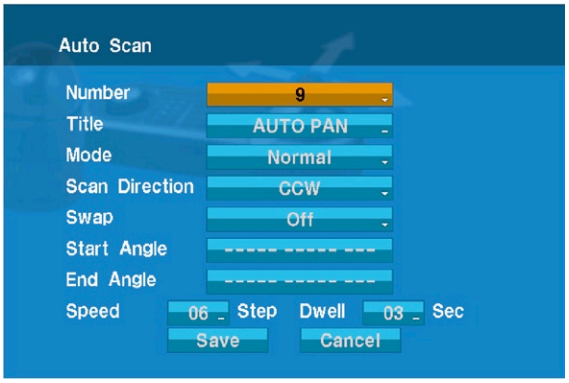
a. Before entering the AUTO SCAN menu, select a preset position as a starting point for Auto Scan.
   Example: 2 + PRST and do step 1 to 7. In step 8, just press the **CTRL** key at the start angle position, the current position will be displayed as a start position.
b. Save and exit from the menu.
c. In normal mode, call a preset to be the end point of scan. Press **3** + **PRST** then press **SCAN** key to enter the AUTO SCAN menu. Move the cursor position to END ANGLE. Just press **CTRL** key at the end angle position. Save and exit from the menu.





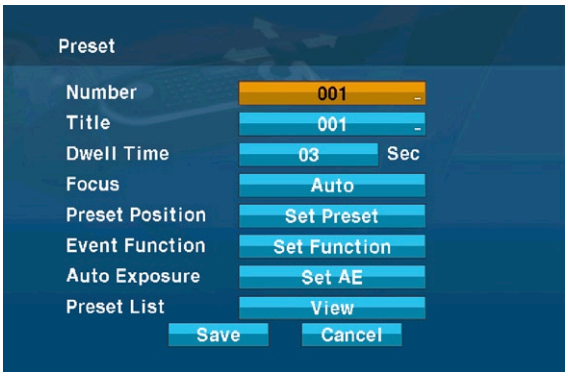
The setting procedure is the same as above.

NOTE: 09: AUTO-PAN mode (Endless panning)



4.5 Preset (Shortcut: **PRST**)

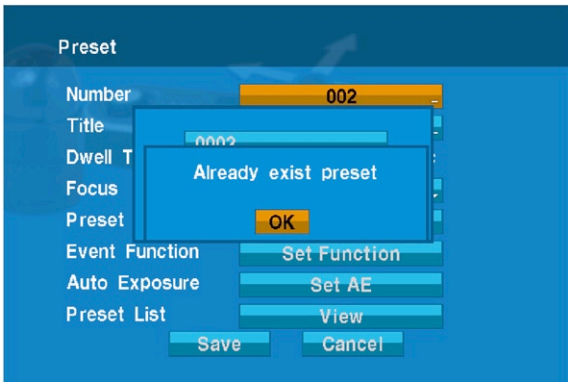
If you need to view specific places routinely, you should program presets. A preset is a programmed video scene with automatic pan, tilt, zoom, focus, and AE settings. Once programmed, placing the number position and pressing a **PRST** button on your controller calls up that preset automatically. In addition, presets may be assigned to alarm actions or as the „home" position for the dome camera. As many as 240 presets, whose positions are saved in the dome's firmware, may be programmed.



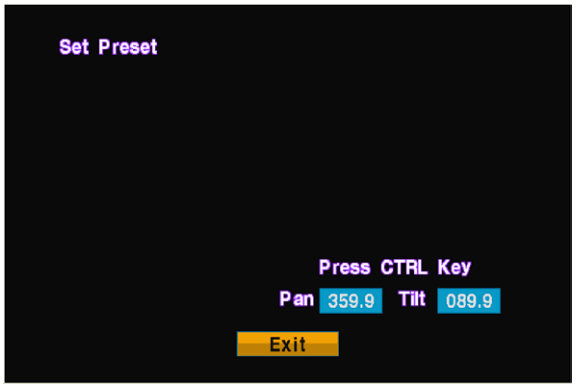
Number	001 -240
Title	up to 12 characters
Dwell Time	Set the dwell time at the both end, 01 – 99 seconds
Focus	Auto, Manual, One Push
	Auto Auto Focus at continuous
	Manual Camera goes into manual mode
	One Push Held the auto focus at one times only with a pan/tilt/zoom action occurred.
Preset Position	Set the preset position with view direction and lens control..
Event Function	Set the desired function.
Auto Exposure	Set the auto exposure of the desired preset.
Preset List	Show the stored preset list.

Follow steps below to store the Preset positions:

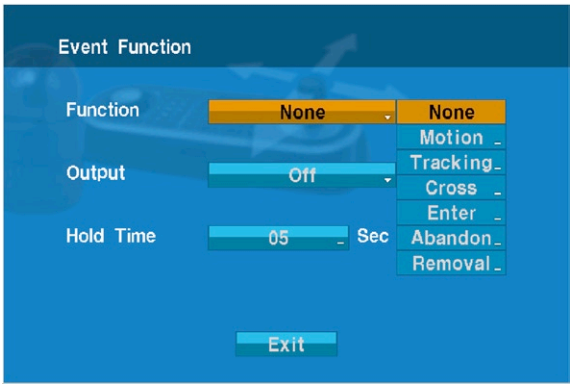
1. Press the **PRST** key to enter the preset menu directly. Or press the **MENU** key to display the main menu on the monitor. Scroll to preset and push the **Joystick** to the right.
2. Select the „Number" and select thepreset position to be stored by pushing the **Joystick** up, down, right, or left.
3. Follow the procedure of the auto scan above to edit titles.
4. If selected preset number is not empty, „Already exist preset" message will be displayed on the monitor and select the „OK" and push the **Joystick** to the right to overwrite.



5. After selecting a preset position, press and hold **CTRL**. Use the **Joystick** to control the direction of the camera and lens.



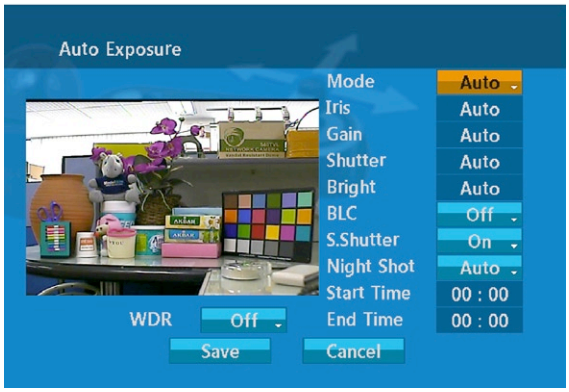
6. After aiming the camera (view direction and lens control), release **CTRL**.
7. Select „Event Function" and pushing the **Joystick** left or right. Then the event function setup displays.



- **Please refer to the below (4.5.1 Event Function) for more details.**

NOTE: The features will vary depending on the camera module installed in your dome camera.

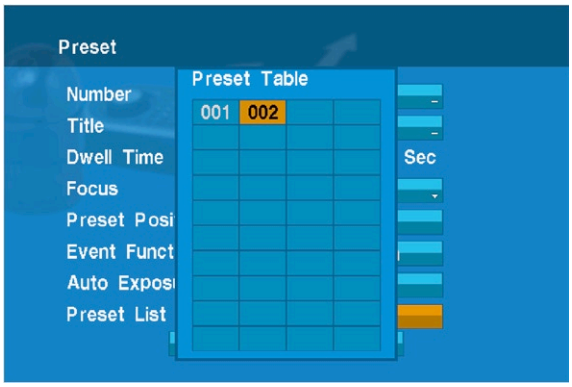
8. Set the „Auto Exposure"



Refer to the AE SETUP in the camera setup.

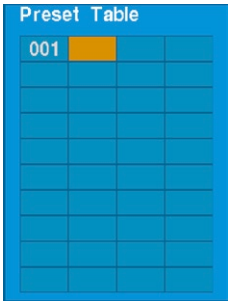
9. Repeat steps 2 through 8 for each additional preset position.
10. Select SAVE by pushing the **Joystick** to the right. Press **Cancel** to exit the Preset menu without saving.

11. Select the preset list, then the stored preset list displays.



Select the desired preset then the desired preset setup displays.

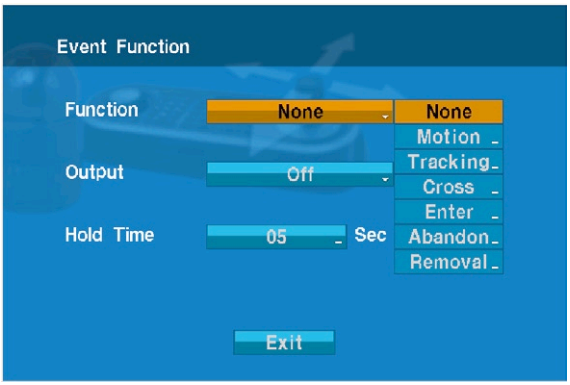
NOTE: Press the HOME key at desired preset in preset table to delete a programmed preset .



4.5.1 Event Function

You can set a preferred function in specified preset position.
All available functions are like below.

Motion	You can detect a moving object in specified preset position.
Tracking	You can make a camera follow the moving object automatically (In case of catching more than 1 moving objects at the same time, a bigger object will be tracked).
Cross	You can detect a moving object crossing a specified virtual line in a preset position.
Enter	You can detect a moving object that newly enters in a specified area (enter box).
Abandon	You can detect an object abandoned in a specified area.
Removal	You can detect an object removed in a specified area.



Function Choose a function (None, Motion, Tracking, Cross, Enter, Abandon, Removal).

Output Set the alarm output. (Off, Out1~Out4)

Hold Time Set the hold time of alarm signal for chosen function, (Off, 03 – 99 seconds)

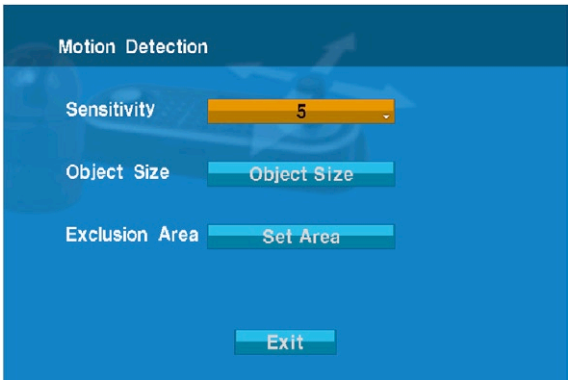
4.5.2 Motion

You can detect moving objects in specified preset position.

You can see the results by either „Bounding Box" or „Trace".

As a result of motion, screen will display the bounding box or trace.

(„Bounding box" means you can see a virtual rectangle on moving object. In prior of this, you make sure that you set „On" in display and Bounding box in OSD Setup. „Trace" means you can see a trace on moving object. In prior of this, you make sure that you set „On" in display and Bounding box in OSD Setup.)



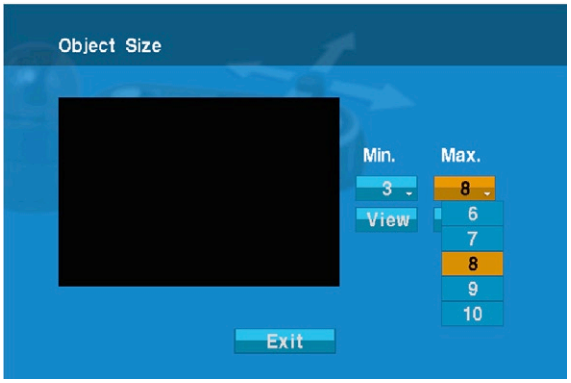
Sensitivity Set the sensitivity step. 1-8 step, the lower number means the lower sensitivity (dull).

Object Size Set the min/max size.

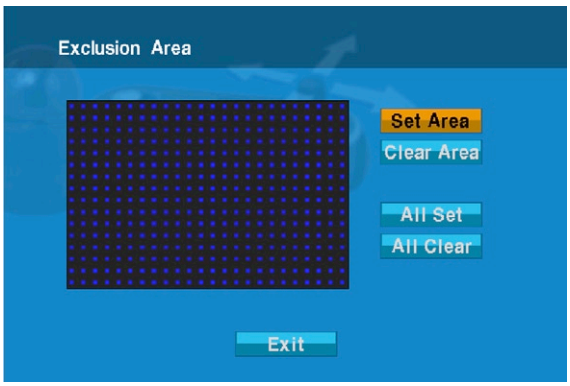
Exclusion Area Set the exclusion area.

Follow steps as below to set the Motion Detection:

1. Select the function in the event function. Scroll to Motion and push the **Joystick** to the right.
2. Select the "Sensitivity" and Set the object size..



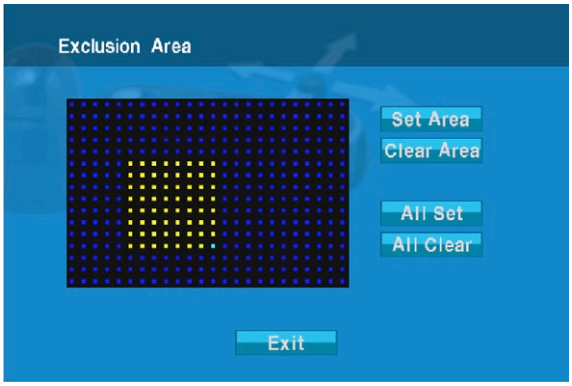
3. Select "Exclusion Area".
   (Viewing image will be positioned to the selected preset automatically when user enter this Menu)



Exclusion Area:

You can set inactive area of Motion detection on this Menu.

To avoid false alarm, we recommend you to exclude areas like trees with swaying branches or street with walking people.



Set Area Locate the cursor on the “Set Area” and then twist Joystick and then move Green grid to the position. Change the colour of grid to disable Motion Detection by twisting Joystick. Then disabled Grid will be changed to Yellow colour. (Default colour of grid is Blue)

Clear Area Locate the cursor on the “Clear Area” and then twist Joystick and then move Green grid to the position. Change the colour of grid to enable Motion Detection by twisting Joystick. Then enabled grid will be changed to Blue colour.

All Set Select All grids and change to Motion Detection disabled grid.

All Clear Select All grids and change to Motion Detection enabled grid.

NOTE: We recommend setting Exclusion Areas for certain zones with unwanted motion. (For example, swaying branches or leaves of tree, flickering monitor screen)

4.5.3. Tracking

You can make a camera follow the moving object automatically (In case of catching more than 1 moving objects at the same time, a bigger object will be tracked)

Zoom Enable	Set to enable or disable linked zoom capability during tracking.
Return Time	Set the dwell time before move to previous position once tracking is inactive. (Off, 3~99 seconds)
Lost Mode	Choose „Stop" or „Zoom Out" when object has been lost.
	Stop: Stop Tracking in current position when object lost
	Zoom Out: „Zooming Out" will be activated in 3 seconds after object was lost. However this can not work if you switched off „Zoom Enable".
Object Size	Set the min/max size.
Exclusion Area	Set the exclusion area
View Angle Limit	Set to enable or disable limits of view angle during tracking
	On: Enable limits of view angle only during tracking
	Off: Enable limits of view angle during tracking always
Right Limit	Set 0.0 ~ 359.9
Left Limit	Set 0.0 ~ 359.9
High Limit	Set 0.0 ~ 180.0
Low Limit	Set 0.0 ~ 180.0

Follow steps as below to set the Tracking:

1. Set the Zoom Enable.
2. Set the lost mode.
3. Select the object size and the exclusion area.
   Follow the procedure of the detection above to the object size and the exclusion area.
4. Select the Exit (with saving) and push the **Joystick** to the right. Press **ESC** to exit the program without saving.

NOTE: If you set to the sensitivity of tracking, select the motion in event function. Then set to the sensitivity of motion. Select to the tracking in event function again.

NOTE: Auto tracking will be activated with an indicator (+) focused on the center of the object

NOTE: Malfunctions in Auto Tracking might occur for the following cases:

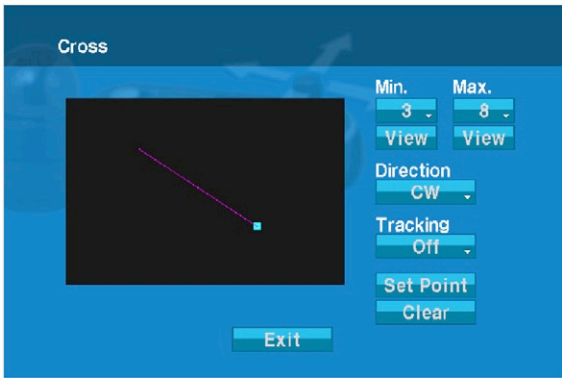
- The object brightness is almost identical to the background luminance or in environments with extreme low light conditions
- Water drop or damp on the Dome's Bubble
- An environment with extreme changes in illumination
- An environment where there is excessive other non-target movement
- An environment where there is extreme twinkling or lambency on the object
- Movement too close to the camera optical axis
- Movement of the target in the vicinity directly below the camera
- Target movement that is very fast or very slow
- When the moving objects are either large or small in comparison to the preconfigured object size
- When the camera is unsteady due to improper installation

4.5.4 Cross

You can detect a moving object crossing a specified virtual line (cross line) in a watch area.

You can see current status of moving object by “Bounding Box”.

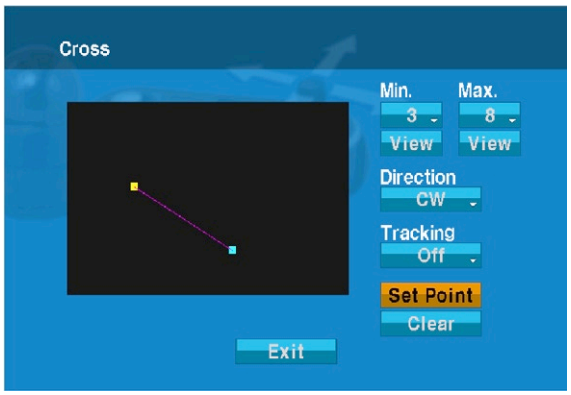
(„Bounding box” means you can see a virtual rectangle on moving object. In prior of this, you make sure that you set “On” in display and Bounding box in OSD Setup)



Min.	Set the min size of object while object crossed.
Max.	Set the max size of object while object crossed.
Direction	Set the direction while object cross.
	CW: CW (Clock Wise)
	CCW: CCW (Counter Clock Wise)
	Both: CCW (Counter Clock Wise), CW (Clock Wise),
Tracking	Set the tracking use while object crossed.
Set Point	Set the cross line.
Clear	Remove the cross line.

Follow steps as below to set the Cross:

1. Set the min size of the enter object and set the max size.
2. Select the cross direction.
3. Select the tracking use while object crossed.
4. Select the “Set Point” for cross line.



Use the **Joystick** to set the location of the start point(yellow mark). Move the cursor (green mark) by pushing the **Joystick**, up, down, right or left. Select the location of the end point.

Draw a cross line to end point from start point.

5. Select the Exit (with saving) and push the Joystick to the right. Press ESC to exit the program without saving.

NOTE: To minimize failure rate of “Cross”, you are recommended to draw horizontal Cross line than vertical line. Also cross line should be placed on the position where object is passing fast.

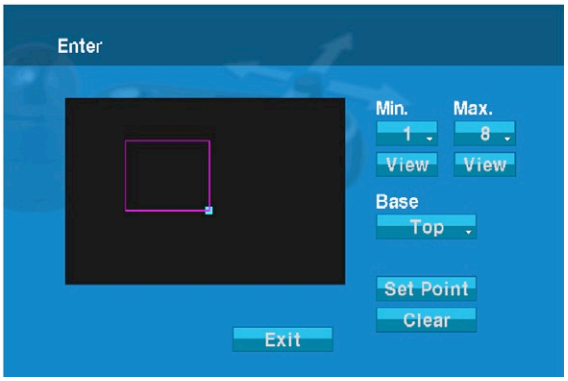
NOTE: Malfunction might occur or the cross will be deactivated if the moving object reaches the edge of the Cross-line.

4.5.5 Enter

This can detect a moving object that newly enters in a specified area (enter box).

You can see current status of moving object by „Bounding Box”.

(„Bounding box” means you can see a virtual rectangle on moving object. In prior of this, you make sure that you set “On” in display and Bounding box in OSD Setup.



Min. Set the min size of object while object entered.

Max. Set the max size of object while object entered.

Base Set the reference point while object entered.

It occurs a event when reference point enters in a specified enter box.

Top: Reference point is the top of object.

Bottom: Reference point is the bottom of object.

Both: Reference point is the top of object and bottom of object.

Set Point Set the enter box.

Clear Remove the enter box.

Follow steps below to set the Enter:

1. Set the min size of the enter object and set the max size.
2. Select the enter base.
3. Select the „Set Point” for enter box.
4. Select the Exit (with saving) and push the **Joystick** to the right. Press **ESC** to exit the program without saving.

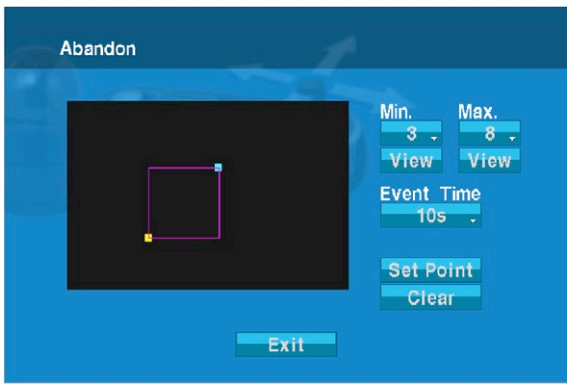
4.5.6 Abandon

This can detect an object abandoned in a specified area.

You can see current status of moving object by „Bounding Box”.

Once moving object is fixed as „Abandon”, colour of „Bounding box” will be changed to complementary colour of ROI line.

(“Bounding box” means you can see a virtual rectangle on moving object. In prior of this, you make sure that you set „On” in display and Bounding box in OSD Setup.



Min. Set the min size of object while object abandoned.
Max. Set the max size of object while object abandoned.
Event Time Set the event time. 10s, 20s, 30s, 40s, 50s, 60s, 70s, 80s, 90s, 100s, 120s, 180s, 240s
Set Point Set the abandon box.
Clear Remove the abandon box.

Follow steps below to set the Abandon:

1. Set the min size of the enter object and set the max size.
2. Select the event time.
3. Select the „Set Point" then draw a box for two point.
4. Select the Exit (with saving) and push the Joystick to the right. Press ESC to exit the program without saving.

NOTE: There might be malfunction of Removal for the following cases:
- **The object brightness is almost identical to the background luminance**
- **When the objects are either large or small in comparison to the preconfigured Object size**
- **Environments where there is strong direct/indirect light shining onto the object or Background**
- **The abandoned object is not fixed.**

4.5.7 Removal

This can detect a object removed in a specified area.

You can see current status of moving object by „Bounding Box".

Once moving object is fixed as "Removal", color of „Bounding box" will be changed to complementary color of ROI line.

(„Bounding box" means you can see a virtual rectangle on moving object. In prior of this, you make sure that you set „On" in display and Bounding box in OSD Setup.

Min. Set the min size of object while object removed.
Max. Set the max size of object while object removed.
Event Time Set the event time.
Set Point Set the area for removal.
Clear Remove the area.

Follow steps below to set the Removal:

1. Set the min size of the enter object and set the max size.
2. Select the event time.
3. Select the „Set Point", then draw a box for two point.
4. Select the Exit (with saving) and push the **Joystick** to the right. Press **ESC** to exit the program without saving.

NOTE: There might be malfunction of Removal for the following cases.
- **The object brightness is almost identical to the background luminance**
- **When the objects are either large or small in comparison to the preconfigured object size**
- **Environments where there is strong direct/indirect light shining onto the object or background**

4.6 Shortcut of Preset Program

After selecting the desired scene, press No. (**1** to **240**), and press **CTRL** and **PRST** subsequently. The current view will be stored to the selected preset number if the preset number is empty. If selected preset number is not empty, „Do you want to overwrite preset?" message will be displayed on the monitor and select the „OK" and push the **Joystick** to the right to overwrite.

Example: **1** , **0** , **1** + **CTRL** + **PRST** will store current view as preset No. **101**. In this case, focus will be programmed as Auto, dwell time will be set to 3 seconds, and the current AE mode will be programmed.

4.7 Tour (Shortcut: **TOUR**)

There are 8 programmable Tours. Each Tour consists of up to 42 Preset positions, Patterns, Scans or other Tours (second-level).
Using second-level tours, it can be expanded to over 300 functions in a single tour.

Number 01 -08

Title up to 12 characters.

Scan Type Normal, Vector

Normal: Move from start point to end point in panning only.

Vector: Move from start point to end point including tilt and zoom simultaneously and linearly. In some model, the zoom is fixed at wider angle and the zoom magnification information is not displayed.

Speed 1 - 13 steps, the lower number means the slower speed.

Event Enable ON / OFF

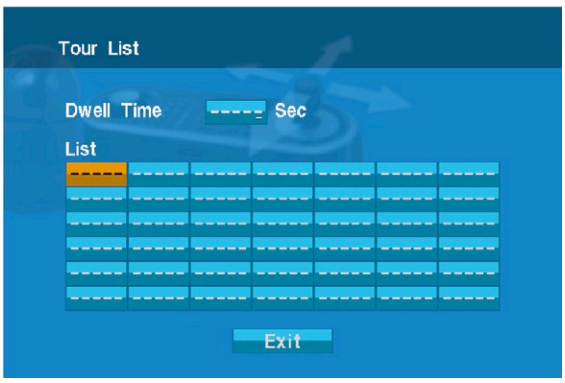
ON: Enable all events except abandon and removal preconfigured in preset.

OFF: Disable all events preconfigured in preset.

Tour List Display the stored function list (Preset, Pattern, Auto Scan, Tour List) or you will set the desire function list.

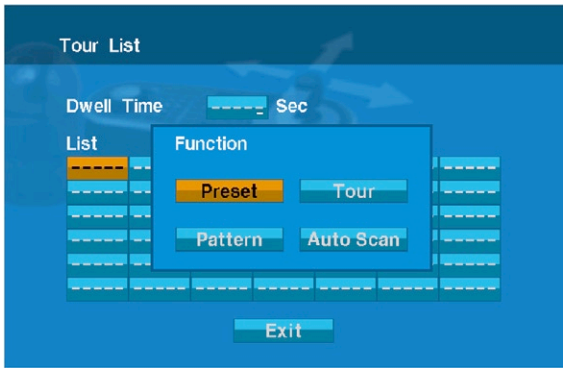
Follow the steps below to program the Tours:

1. Press **MENU** to display the main menu on the monitor. Scroll to Tour and push the **Joystick** to the right to enter the Tour menu. Or just press the **TOUR** key on the keyboard.
2. Select the „NUMBER" and set the desired number by pushing the Joystick left or right.
3. Select the „Scan Type" and if you have to choose vector type then you will apply the speed.
4. Select the „Tour List", then display the tour list.



Dwell Set the dwell time at the both end, 01 – 99 seconds

5. Blank position mark (---) will be displayed and selected, then twist the **Joystick**.



To add functions, select the preset, tour, pattern, and auto scan respectively.

6. You can also overwrite the programmed number and to remove a stored number from the Tour, press the **HOME** key on the stored number, a blank position mark (– – –) will be displayed.
7. Repeat Step 2 through 5 for each desired position. Each title will be displayed on top of the line.
8. To edit the title, follow the procedure of the auto scan above to edit titles
9. Select Save and Exit and push the **Joystick** to the right. Press **ESC** to exit the program without saving.

You can expand the tour sequence by calling other programmed tours.

NOTE: The speed applies in the vector mode only.

NOTE: In the Tour mode, in conjunction with preset and Auto Scan, you can make the camera travel from a preset position to another preset position at a specific speed.

Example: Preset 001 > 002 > 003 > 004 > 005 > 006, Auto Scan 01 starts at preset 002, ends at preset 003, Auto Scan 02 starts at preset 005, ends at preset 006; Tour 001, 002, A01, 004, A02.

1 **–>** 2 2~3 **–>** 4 **–>** 5~6, repeat
where **–>** : Quick move, ~ : Programmed speed

To change the dwell time of the preset in the tour:

Use the **Joystick** to move the cursor to a stored preset position. By pressing **PRST** key, the camera will move to the stored Preset view and the cursor moves to the dwell time field.

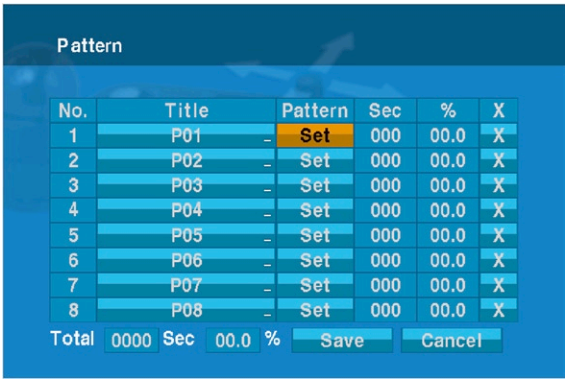
After changing the dwell time, press **PRST** key and the cursor moves to the preset number.

To assign the functions other than preset in the tour when the function key is not existed:

Use the **Joystick** to move the cursor to a stored preset position. Pressing **CTRL** key or **IRIS Open** key will change the preset number to other function (AUTO SCAN, PATTERN, TOUR, PRESET) with the first programmed number. To change the number, twist the **joystick** or press **Tele** or **Wide** key.

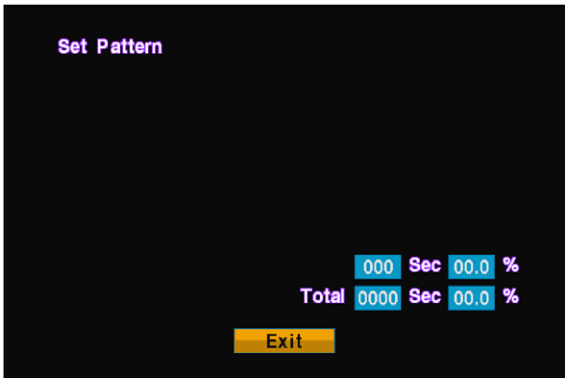
4.8 Pattern (Shortcut: **PTRN**)

The Pattern feature records user control of the selected dome camera. Up to four 8 patterns can be stored and played back by pressing No.+ **PTRN** keys subsequently.


Pattern
No. Title Pattern Sec % X
1 P01 Set 000 00.0 X
2 P02 Set 000 00.0 X
3 P03 Set 000 00.0 X
4 P04 Set 000 00.0 X
5 P05 Set 000 00.0 X
6 P06 Set 000 00.0 X
7 P07 Set 000 00.0 X
8 P08 Set 000 00.0 X
Total 0000 Sec 00.0 % Save Cancel

Follow steps below to program the Pattern:

1. Press **MENU** to display the main menu on the monitor. Scroll to Pattern and push the **Joystick** to the right to enter the pattern menu. Or just press the **PTRN** key on the keyboard.
2. To edit the pattern title, follow the procedure of the auto scan above to edit titles.
3. Select the desired pattern to be programmed by pushing the **Joystick** Up or Down. If the „Sec" is not 000, a pattern has already been recorded. Patterns can be overwritten.
4. Select the desired pattern (Set) then twist the **Joystick**.
5. Display the „set pattern".



6. Press and hold down the **CTRL** key while controlling the camera direction and zoom with the **Joystick**. The dome will be automatically recorded until you release the **CTRL** key. Or Press **IRIS Open** then the „CTRL" displays. Move the position and the zoom position. Press **IRIS Close** then the „CTRL" disappears.
7. Select Save and Exit and push the **Joystick** to the right. Press **ESC** to exit the program without saving.

NOTE: Press the HOME key at any programmed position to delete the pattern.

NOTE: If total recording time reaches 500 seconds, it will automatically stop for a moment.

4.9 Alarm

Alarm
No. Priority Function In Out Hold Latch
1 1 ----- Off Off 03 Off
2 1 ----- Off Off 03 Off
3 1 ----- Off Off 03 Off
4 1 ----- Off Off 03 Off
5 1 ----- Off Off 03 Off
6 1 ----- Off Off 03 Off
7 1 ----- Off Off 03 Off
8 1 ----- Off Off 03 Off
Relay Out
Alarm Schedule
Dwell 03 Sec
Save
Cancel

NO: Alarm input number

PRIORITY: The lower number has higher priority. (1-8)

FUNCTION: Stored function number to be called by alarm.

IN: NO/NC - normally open/closed; OFF - ignore

OUT: OUT1~OUT4 - Relay out 1,2,3,4, OFF - No output

HOLD: Alarm will be held for programmed time (03 to 99 seconds)

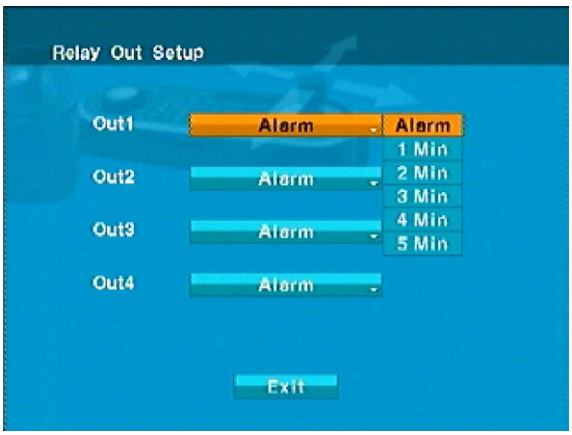
LATCH: ON - Shows all alarms including past alarm.
OFF - Shows activated alarms only.

DWELL: means the dwell time during multiple alarms, 03 to 99 seconds.

There are 8 levels of priority. The function can be selected by Preset, Auto scan, Pattern or Tour and „0" is the highest priority. Lower priority alarms won't be serviced until the higher priority alarm is completed. Equal priority alarms will be serviced repeatedly with the dwell time.

The RELAY OUT setup is helpful when the outdoor housing is used with the dome.

Example: When you connect the relay output of the dome to the heater connector of the outdoor housing, the relay output can operate during the setting time only.



ALARM: The relay output is operated during an alarm operation or by the short key of our keyboard.

1-5 MIN (minute): The relay output is operated during this setting time only by the function run of the dome menu or the short key of our keyboard.

NOTE: This 1-5 MIN setting is not operated by an alarm.

NOTE: If you disable Alarm by dip switch, Alarm menu will be displayed following screen.

You can set the schedule of Alarm operation on this menu.

Alarm Schedule
Schedule Enable
Off
No. Day Start time End time Enable
1 All 00 : 00 00 : 00 Off
2 All 00 : 00 00 : 00 Off
3 All 00 : 00 00 : 00 Off
4 All 00 : 00 00 : 00 Off
5 All 00 : 00 00 : 00 Off
6 All 00 : 00 00 : 00 Off
Exit

4.10 Schedule

Schedule
No. Day Start time Function Enable X
1 Mon. 21 : 00 Auto Pan Off X
2 Wed. 17 : 00 Origin Off X
3 All 10 : 50 Origin Off X
+ < > Clear Save Cancel

You can set the schedule of Preset, Pattern, Tour, Auto Scan, Auto Pan, Origin, DIS On, DIS Off on this menu.
Selected Function will be effective per selected start time and day (of the week) range.

Follow below steps to set schedule.

1. Locate cursor on the „+" and then, twist Joystick (keyboard) to add a new schedule.
2. To choose day (of the week) range, locate cursor on the relevant „Day" and then twist Joystick (keyboard) to set one of 10 ranges. (All, Mon, Tue, Wed, Thu, Fri, Sat, Sun, S-S, M-F)
3. To choose start time, locate cursor on the relevant „Start time" and then twist Joystick (keyboard) to set time.
4. Choose one function to work on this schedule.

NOTE: In prior of this setting, the functions need to be set on menu.

Enable Choose to enable or disable selected function.

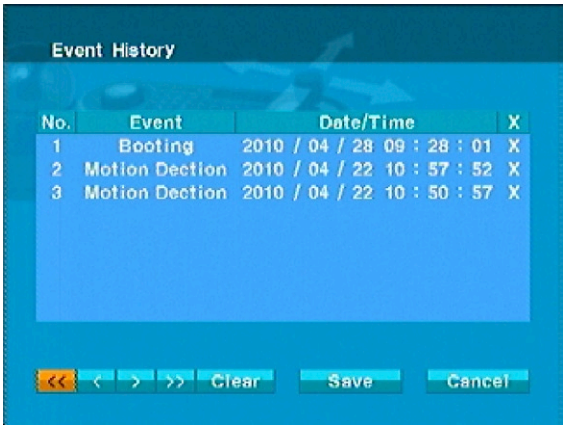
X Delete the relevant schedule.

< Return to the previous page in the schedule list.

> Return to the next page in the schedule list.

NOTE: Origin check in Schedule will not be activated when the camera is operating under Auto Scan, Pattern, Tour and Event function per other schedule.

4.11 Event History


Event History
No.
Event
Date/Time
X
1 Booting 2010 / 04 / 28 09 : 28 : 01 X
2 Motion Dection 2010 / 04 / 22 10 : 57 : 52 X
3 Motion Dection 2010 / 04 / 22 10 : 50 : 57 X
<<
<
>
>>
Clear
Save
Cancel

You can see list of Event (Alarm1, Alarm2, Alarm3, Alarm4, Alarm5, Alarm6, Alarm7, Alarm8, Cross, Tracking, Abandon, Removal, Motion, Booting) on this menu. This device can memorize 256 events at maximum. (Over 256 events, the oldest event will be erased one by one)

<< Return to the first page in the history list.

< Return to the previous page in the history list.

> Proceed to the next page in the history list.

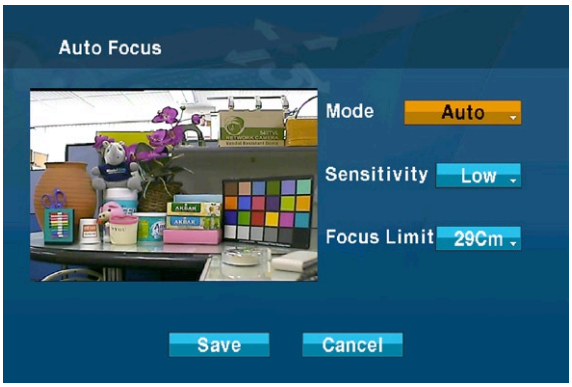
>> Proceed to the last page in the history list.

Clear Delete all the information in the history list.

4.12 Camera Menu (36x; EDC-4362, # 74224)

NOTE: The features will vary depending on the camera module installed in your dome camera.

4.12.1 Auto Focus



MODE AUTO / MANUAL / ONE PUSH / CONSTANT MANUAL
Use manual mode in normal use.

AF SENSITIVITY NORMAL / LOW

NORMAL: Use this option when shooting fast motion.

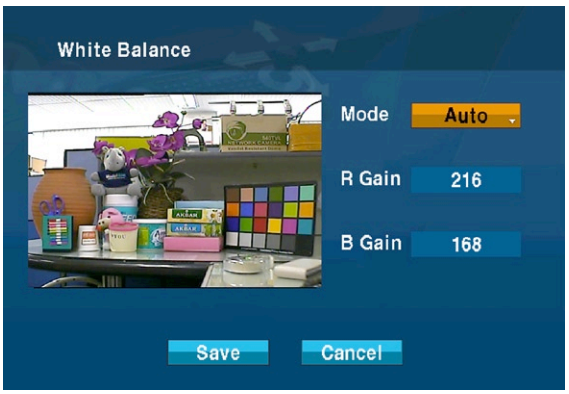
LOW: Offers better focus stability. In low luminance conditions, Auto Focus stops operation even when brightness changes, enabling stable images of moving objects.

FOCUS LIMIT 9.5cm / 32cm / 1.5m / 2m / 3m / 5m / 10m / 20m

This distance is approximate value and the focus operate from the setting value.

CAUTION: Avoid continuous, 24-hour use of the auto focus. This will shorten the lifespan of the lens.

4.12.2 WB (White Balance) Control



MODE AUTO / INDOOR / OUTDOOR / ONE PUSH / ATW / MANUAL

MANUAL: Control of R and B gain

AUTO: Computes the white balance value output using colour information from the entire screen automatically. (3000 to 7500K)

INDOOR: 3200K base mode.

OUTDOOR: 5800K base mode

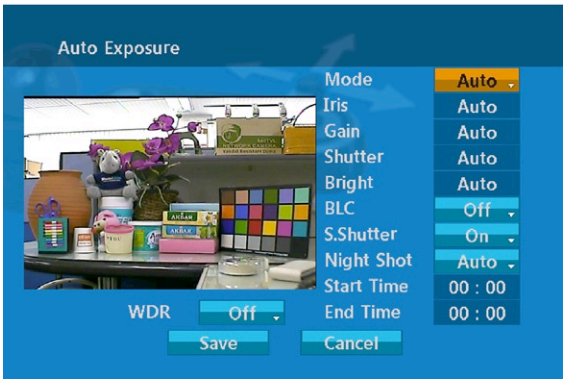
ONE PUSH: One push white balance mode is a fixed WB mode that may be automatically readjusted at the stop after moving.

ATW: Auto tracing white balance. (2000 to 10000K)

RGAIN 0 ~ 255
BGAIN 0 ~ 255

RGAIN / BGAIN modes are controllable only in MANUAL Mode

4.12.3 Auto Exposure



MODE	AUTO / MANUAL / IRIS PRIO / SHUTTER PRIO / BRIGHT	
	AUTO:	Auto Iris and Gain, Fixed Shutter speed (NTSC: 1/60 sec, PAL: 1/50 sec)
	MANUAL:	Variable Shutter, Iris and Gain.
	IRIS PRIO:	Variable Iris, Auto Gain and Shutter speed.
	SHUTTER PRIO:	Variable Shutter speed, Auto Iris and Gain.
	BRIGHT:	Variable Iris and Gain
IRIS	F1.6 / F2 / F2.4 / F2.8 / F3.4 / F4 / F4.8 / F5.6 / F6.8 / F8 / F9.6 / F11 / F14 / F16 / F19 / F22 / F28 / CLOSE	
GAIN	-3 DB / 0 / 2 / 4 / 6 …… / 28	
SHUTTER	1/1, 1/2, 1/3, 1/6. .. 1/3500, 1/6000, 1/10000	
BRIGHT	0, 1, 2, 3, 4 ..... 29, 30, 31	
BACK LIGHT	Objects in front of bright backgrounds will be clearer with BLC ON.	
SLOW SHUTTER	ON / OFF	
NIGHT SHOT	AUTO, ON, OFF, GLOBAL, TIME	
	Start Time	
	End Time	
WDR	ON / OFF	

NOTE: Values in ( ) are for PAL Camera.
NOTE: The Back Light operates in AUTO mode only.

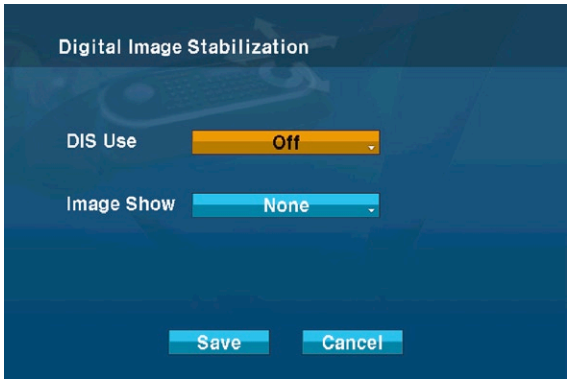
For example, if you change the back light to ON, the camera will change AE mode to „AUTO".

The NIGHT SHOT option removes the IR cutoff filter of the camera and makes the camera sensitive to near infrared.

AUTO	Camera goes in to B&W mode at low light.
GLOBAL	Controlled by the keyboard.
	The operator can enable NIGHT SHOT for all dome cameras at the same time.
	If the NIGHT SHOT mode is set to GLOBAL, „999" + **ENTER** will turn Off the NIGHT SHOT mode and „888" + **ENTER** will turn On the NIGHT SHOT mode.
ON	B/W mode
OFF	Color mode
START TIME	Set time to change from „Color mode" to „B/W mode"
END TIME	Set time to change from „B/W" to „Color mode"

NOTE: Selecting the Night Shot to Auto mode will change AE mode to „AUTO".

4.12.4 DIS (Digital Image Stabilization)



DIS USE ON / OFF
Choose to enable or disable DIS

IMAGE SHOW NONE / PIP / PDP

NONE: Only viewing DIS Active image

PIP: View original image (small) and DIS active image (big) as picture in picture

PBP: View original image (left) and DIS active image (right) as picture in picture

NOTE: There might be malfunction of DIS for the following cases.

- **The camera is operating under extremely low light condition.**
- **The object brightness is almost identical to the background luminance**
- **The object is moving very fast**
- **The camera is unsteady due to improper installation**

NOTE: DIS will be deactivated if the camera is operating under Event function or PAN / TILT / ZOOM / FOCUS commands.

4.12.5 Camera Setup

SHARPNESS The higher the value, the more edges in the picture will be enhanced (0~15).

RESOLUTION Select high resolution mode (LOW/ MID / HIGH)

Digital ZOOM OFF: Zoom range is limited to the optical.

2x: Zoom is extendable up to 2x of digital range.

4x: Zoom is extendable up to 4x of digital range.

8x: Zoom is extendable up to 8x of digital range.

MAX: Zoom is extendable Max digital zoom range.

IMAGE FLIP This function turns the video output from the camera upside down and reverses it horizontally.
This option is helpful to install in the opposite side.

PRESET FREEZE ON/OFF
ON: the image is frozen during calling preset.

BRIGHT OFFSET -7, …, **0 (default)**, …7
Adjust the brightness level (AUTO, SHUTTER PRIO, IRIS PRIO mode only)

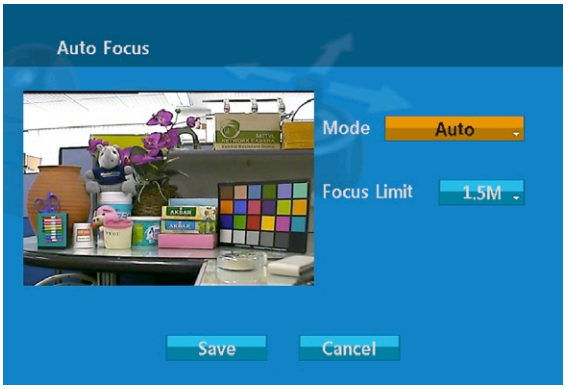
SLOW RESPONSE The slow response function allows you to lengthen the automatic exposure response speed from 1 up to 32 times. For example, with the normal setting (about 1 second), if the headlights of a car are caught by the camera, the camera automatically adjusts the exposure so that it can shoot a high-intensity subject (in this case, the headlights). As a result, images around the headlights, that is, the rest of the subject, except the headlights, becomes relatively dark, and poorly distinguished. However, using the slow response function can still easily distinguish the portions of the image surrounding the headlights.

DN THRESHOLD 5, … **18 (default)**, …, 28
Adjusts the level of light at which the camera automatically switches out of night mode (B/W) operation.

4.13 Camera Menu (22x; EDC-4222, # 74223)

NOTE: The features will vary depending on the camera module installed in your dome camera.

4.13.1 Auto Focus

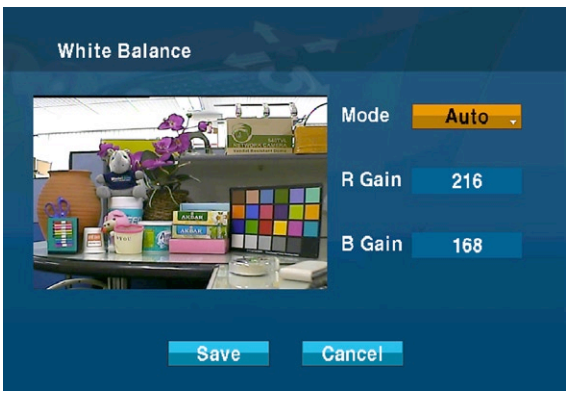


MODE AUTO / MANUAL / ONE PUSH / CONSTANT MANUAL
Use manual mode in normal use.

FOCUS LIMIT 1.0m / 1.5m / 2.5m / 6.0m
This distance is approximate value and the focus operate from the setting value.

CAUTION: Avoid continuous, 24-hour use of the auto focus. This will shorten the lifespan of the lens.

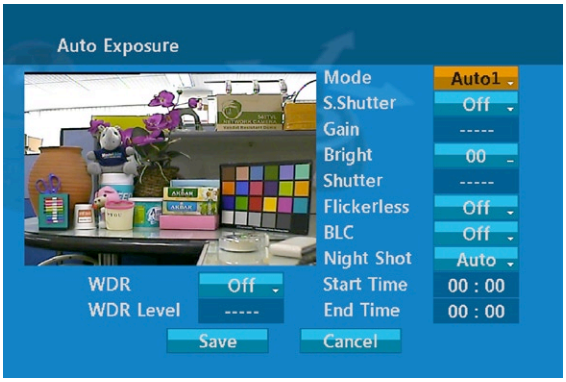
4.13.2 WB (White Balance) CONTROL



MODE	AWB / WAWB / INDOOR / OUTDOOR / MANUAL	
	AWB:	Computes the white balance value output using colour informatlion from the entire screen automatically (2500 to 9500K).
	WAWB:	Wide range auto white balance mode (1800 to 10,500K)
	INDOOR:	Indoor white balance mode
	OUTDOOR:	Outdoor white balance mode
	MANUAL:	Manual mode. You can change R and B Gain manually.
RGAIN	0 ~ 255	
BGAIN	0 ~ 255	

RGAIN / BGAIN modes are controllable only in MANUAL Mode

4.13.3 Auto Exposure



MODE	AE1 / AE2 / SHUTTER PRIO / MANUAL	
	AE1:	Auto exposure mode1 (use to normal surroundings: indoor)
	AE2:	Auto exposure mode2 (use to high brightness surroundings: outdoor)
	SHUTTER PRIO:	Variable shutter speed, Auto Gain
	MANUAL:	Variable shutter speed, Gain
SLOW SHUTTER	ON / OFF	
GAIN	MIN / LOW / MID / HIGH	
BRIGHT	0, 1, 2, 3, 4 ..... 68, 69, 70	
SHUTTER	1/60(50), 1/100(120), …, 1/2000, 1/10000, 1/100000	
FLICKERLESS	ON / OFF	
BACK LIGHT	ON / OFF **(NOTE: When ON, WDR will be disabled.)**	
WDR	ON / OFF **(NOTE: When ON, BACKLIGHT will be disabled.)**	
WDR LEVEL	10~50	

NOTE: **Values in ( ) are for PAL Camera.**

NOTE: **The Back Light operates in AUTO mode only.**

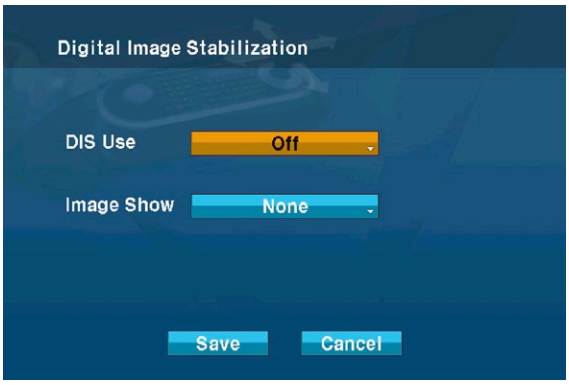
For example, if you change the back light to ON, the camera will change AE mode to „AUTO”.

The NIGHT SHOT option removes the IR cutoff filter of the camera and makes the camera sensitive to near infrared.

AUTO	Camera goes in to B&W mode at low light.
GLOBAL	Controlled by the keyboard
	The operator can enable NIGHT SHOT for all dome cameras at the same time.
	If the NIGHT SHOT mode is set to GLOBAL, „999” + **ENTER** will turn Off the NIGHT SHOT mode and „888” + **ENTER** will turn On the NIGHT SHOT mode.
ON	B/W mode
OFF	Colour mode
START TIME	Set time to change from „Color mode” to „B/W mode”
END TIME	Set time to change from „B/W” to „Color mode”

NOTE: Selecting the Night Shot to Auto mode will change AE mode to „AUTO”.

4.13.4 DIS (Digital Image Stabilization)



DIS USE ON / OFF
Choose to enable or disable DIS

IMAGE SHOW NONE / PIP / PDP
NONE: Only viewing DIS Active image.
PIP: View original image (small) and DIS active image (big) as picture in picture.
PBP: View original image (left) and DIS active image (right) as picture in picture.

NOTE: There might be malfunction of DIS for the following cases.
- **The camera is operating under extremely low light condition.**
- **The object brightness is almost identical to the background luminance**
- **The object is moving very fast**
- **The camera is unsteady due to improper installation**

NOTE: DIS will be deactivated if the camera is operating under Event function or PAN / TILT / ZOOM / FOCUS commands.

4.13.5 Camera Setup

SHARPNESS The higher the value, the more edges in the picture will be enhanced (0~15).

RESOLUTION Select high resolution mode (LOW/ MID / HIGH)

Digital ZOOM OFF: Zoom range is limited to the optical.
2x: Zoom is extendable up to 2x of digital range.
4x: Zoom is extendable up to 4x of digital range.
8x: Zoom is extendable up to 8x of digital range.
MAX: Zoom is extendable Max digital zoom range.

IMAGE FLIP This function turns the video output from the camera upside down and reverses it horizontally.
This option is helpful to install in the opposite side.

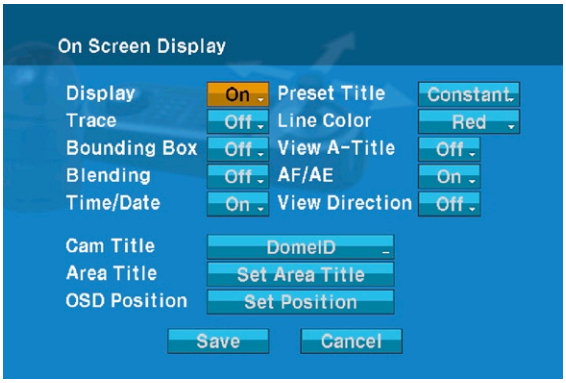
PRESET FREEZE ON: the image is frozen during calling preset.

2DNR(1), 2DNR(2) Select 2D noise reduction level (OFF / 001~007)

3DNR(1), 3DNR(2) Select 3D noise reduction level (OFF / 001~031)

NOTE: DNR(1) applied when motor stopped. DNR(2) applied when motor moving.

4.14 OSD Setup



Display ON / OFF
All display or title will disappear when DOME OSD DISPLAY sets OFF

Trace ON / OFF
Choose to enable or disable Trace. (Only Detection Mode)

Bounding Box ON / OFF
Choose to enable or disable Bounding Box

Blending ON / OFF
Choose to enable or disable Alpha Blending

Time/Date ON / OFF
Choose to enable or disable Time and Date display.

Preset Title CONSTANT / OFF / 3, 30, 60,120,180 second
Set the preset title display time.

Line Color White / Black / Red / Green / Blue / Yellow / Violet / Orange
Set the ROI colour

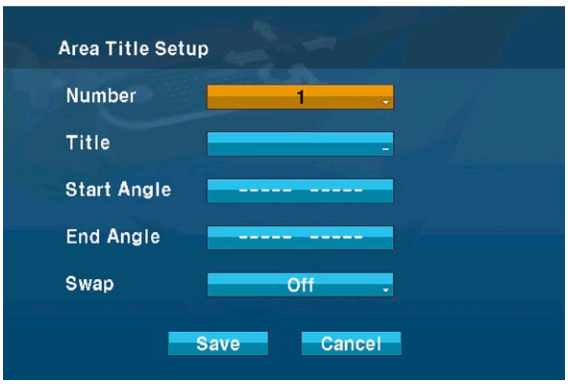
View A-Title ON / OFF
Choose to enable or disable Area-Title display.

AF/AE ON / OFF
Choose to enable or disable AE/AF display

View Direction ON / OFF
„ON" sets current direction as N(north) and the coordinate angle to 000.
„OFF" hides the directional title. Every 90 degrees of clockwise rotation will change the title to E (East), S (South), W (West). If using the ON/OFF option frequently, it is recommended that you set „North" as a Preset. Recall the „North" Preset before enabling the directional title.

Cam Title up to 6 characters

Area Title Enter a specific name on programmed angle between START and END. For the screen below, when the camera points at an angle between 124.3° (PAN), 30.7° (TILT) to 359.5° (PAN), 45.4° (TILT), Title will be displayed on the screen.



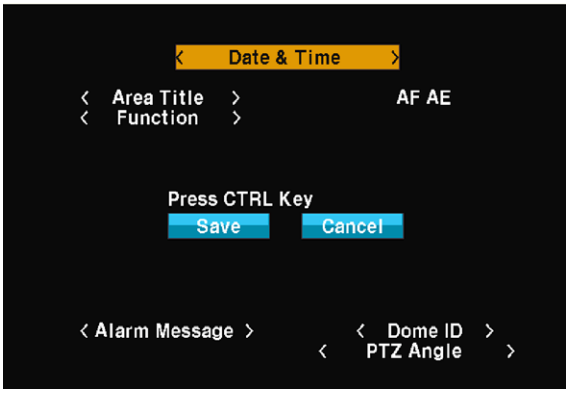
NUMBER: 01 - 16

TITLE: up to 12 characters

SWAP: Swap the start point for the end point.

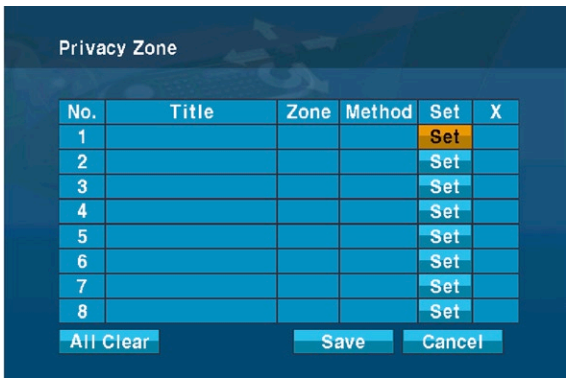
1. Select the „NUMBER" and set the desired number by pushing the Joystick left or right.
2. To edit the title, follow the procedure of the auto scan above to edit titles.
3. Select „START ANGLE". Hold down the **CTRL** key while selecting the start position using the **Joystick**. Current panning position will be displayed. Release **CTRL** key to complete the selection of the start position. Or press IRIS Open then the „CTRL" displays. Move the desired position. Press **IRIS Close** then the „CTRL" disappears. To adjust at the 0.1 degree interval, twist the **Joystick** at the pan field and the tilt field.
4. Select „END ANGLE." Hold down the **CTRL** key while moving the **Joystick** to select the end position. Release the **CTRL** key to complete the selection of the end position. Or press **IRIS Open** then the "CTRL" displays. Move the desired position. Press **IRIS Close** then the „CTRL" disappears. To adjust at the 0.1 degree interval, twist the **Joystick** at the pan field and the tilt field.
5. Select „SWAP". Set to ON, to exchange the start angle and the end angle.
6. Select Save and Exit and push the **Joystick** to the right or press **IRIS Open**. Press **ESC** or **IRIS Close** to exit the program without saving.

OSD POSITION Select the OSD option with **Joystick** up and down, press **CTRL** and adjust the position by **Joystick**

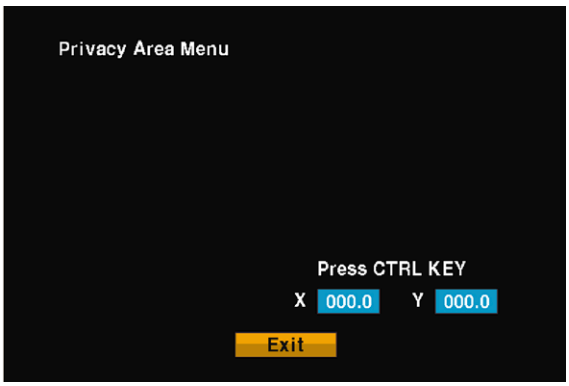


4.15 Privacy Zone

Hide up to 8 unwanted scenes in a camera.



1. Place the cursor at the title field. Twist the **Joystick** handle then privacy area menu displays.
2. Holding down the **CTRL** key displays the privacy area menu while selecting the position using the **Joystick**. Current position will be displayed. Release **CTRL** key to complete the selection of the position. Or Press **IRIS Open** then the privacy area menu displays. Move the desired position. Press **IRIS Close** then the „CTRL" disappears and twist the Joystick handle then returns to the previous menu.

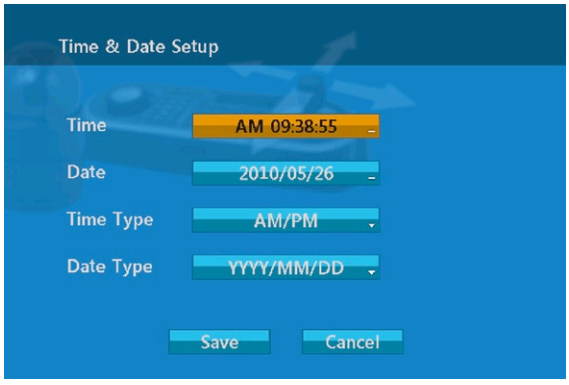


3. Place the cursor at the title field. Twist the **Joystick** to enter the title edit mode.
   Follow the procedure of the auto scan above to edit titles.
4. To turn the stored zone On or Off, twist the **Joystick** handle or press **Tele** or **Wide** Key.
5. Set the method, „BLOCK" or „V.OFF (video off)"
6. Select the Save option by pushing the **Joystick** up or down. Save and exit the program by twisting the **Joystick**. Press **ESC** or select the Cancel to exit the program without saving.

Place the cursor at the X field, twist the **Joystick** to delete programmed privacy zone.

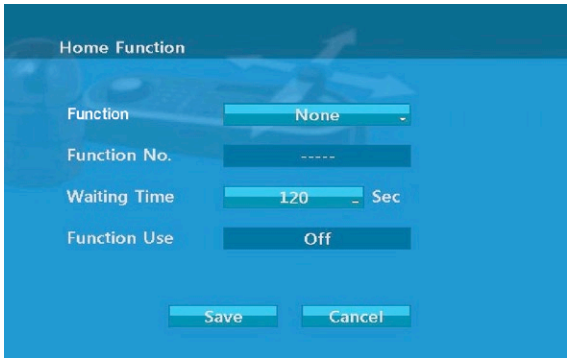
4.16 Time & Date Setup

Set the Time, Date, Time Type and Date Type on this menu



Time	Use Joystick (Keyboard) to change the time.
Date	Use Joystick (Keyboard) to change the date.
Time Type	Supports two formats (12hours, 24hours)
Date Type	Supports three formats (YYYY/MM/DD, MM/DD/YYYY, DD/MM/YYYY)

4.17 Home Function Setup



FUNCTION	NONE / TOUR/ PATTERN / AUTO SCAN / PRESET
FUNCTION NUMBER	- - -
WAITING TIME	10~240 seconds
FUNCTION ENABLE	ON/ OFF

The Home function can be set so that the camera automatically goes to Preset, Tour, Pattern, Auto Scan after the keyboard controller has been idle for certain time. For example, if the controller is idle for 120 seconds, the camera goes to preset 1.
On Power on mode, you can set the camera to go Preset, Tour, Pattern, Auto Scan in case of power off or black out.

Follow these steps to program the Home position:

1. Select Mode by pushing the **Joystick** up or down to scroll through Home Function / Power On
2. Select Function by pushing the **Joystick** up or down to scroll through the None, Tour, Pattern, Auto Scan or Preset functions.
3. Select Function Number and push the **Joystick** to the up or to the down. The recorded function number will list.
4. Select Waiting Time and push the **Joystick** to the up or to the down to select from 10 to 240 seconds. (Activated on Home Function only)
5. Select Function Use and turn to ON or OFF by pushing the **Joystick** to the up or to the down.

4.18 View Angle

FLIP OFF, 90°, 100°, 110°, 120°, AUTO

OFF:	The dome camera moves until 90° vertically.
90°, 100°, 110°, 120°:	Allows the image to flip digitally when the camera moves over the setting angle vertically.
AUTO:	When the camera reaches the floor directly above the moving object, it will stop. At that time, release the **Joystick** handle instantly and pull it down again to run the auto-flip function. When you use the panning range, we recommend using the flip mode to AUTO.

TILT OVER ANGLE This option is used to set the limit of the horizontal view angle so that the trim ring or ceiling does not obstruct the horizontal image when zooming out (wide angle).

ON: In some installations it is desirable for the dome camera to be able to see above the horizon. When this option is chosen, the dome will tilt up over the horizon (about -10 degrees). When the lens is zoomed out, you can see the ceiling line. But when the lens is zoomed in, the viewing angle is narrower, and the ceiling line disappears.

Without Bubble: The tilt range of the camera is limited to see the horizon so the picture shows part of the ceiling line.

With Bubble: The tilt range of the camera is limited to see below the horizon (10 degrees).

Over Angle is not sufficient enough to avoid ceiling obstructions, please adjust Origin Offset of tilt angle as described below.

PANNING RANGE When the dome camera is installed near a wall, panning range can be limited by user.

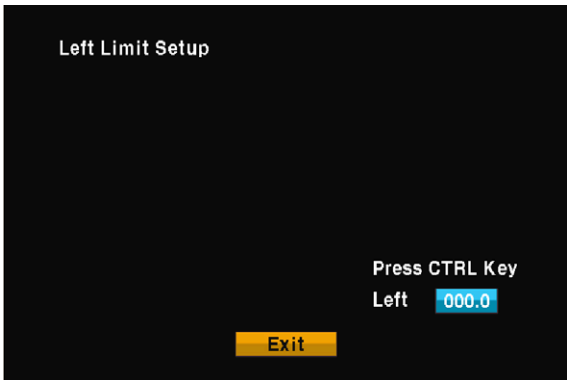
Enable: ON / OFF

Swap: ON / OFF

Auto Pan: ON / OFF

Right Limit: Set 0.0 ~ 359.9

Left Limit: Set 0.0 ~ 359.9

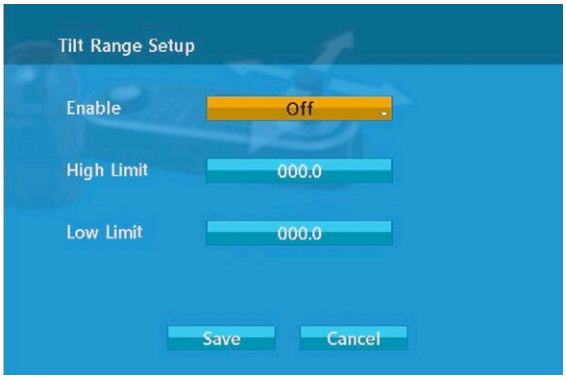


1. Place the dome camera under 90 degree vertically.
2. Set the right limit by pushing the **Joystick** to the right.
3. Set the left limit by pushing the **Joystick** to the left.
4. Set ENABLE to ON to use

To exchange the right and the left limit, set SWAP to ON.
To apply limits on the auto pan (endless panning), set AUTO PAN to ON.

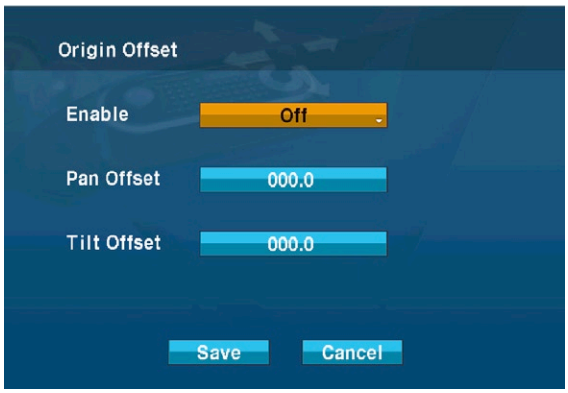
NOTE: When you use the panning range, we recommend using the flip mode to AUTO. When the flip mode is 90°, 100°, 110° or 120° and you moves over 90° vertically, the panning range operates in opposite side.

TILT RANGE When the dome camera is installed near a corner, tilt range can be limited by user.



Enable: ON / OFF
High Limit: Set 0.0 ~ 180.0
Low Limit: Set 0.0 ~ 180.0

4.19 Origin Offset



This feature is useful to align a new dome camera exactly the same as the previously installed dome camera.
Dome camera's origin set and all data initialize option do not override offset values. Only the default set option in this menu will set the offset value to zero. This can be used to avoid ceiling obstructions.

Enable: ON (Use Offset value of Origin) / OFF (Do not use Offset value of Origin)

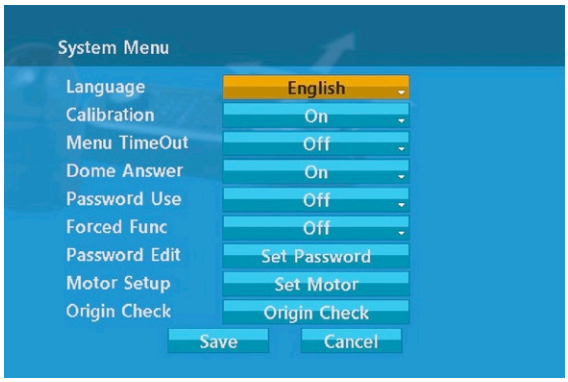
Pan Offset: Set on the viewing image of Pan Offset in Origin menu.

Tilt Offset: Set on the viewing image of Tilt Offset in Origin menu.

4.20 Dome Reset

This feature is used to re-calibrate the orientation of a selected dome camera. Origin offset value is not affected by this function.
(Offset is still valid after origin set)

4.21 System Menu



LANGUAGE English / French / German / Italian / Polish / Portuguese / Spanish / Russian / Korean / Japanese / Chinese

CALIBRATION ON (Auto origin check) / OFF

MENU TIME OUT ON (5 mintues) / OFF (always menu display)

DOME ANSWER ON / OFF (no acknowledge command from the dome)

This option is helpful to escape the collision of the command using some DVR.

PASSWORD USE ON (requires the password to enter menu) / OFF

FORCED FUNC ON (User can force the initialization of a new function like preset, pattern, tour, scan without the need to exit the ongoing operation (pattern, tour, scan) first) / OFF

PASSWORD EDIT You can change the password with 6 digit character in this menu. The default password is **555555**. When the PASSWORD USE is ON, the new window will be displayed for editing new password. Move cursor on the character you want to use and push **CTRL** or **IRIS Open** button to select it.

MOTOR SETUP Motor Setup menu provides the pan and tilt speed of a camera. User can set the desired speed with twist the **Joystick** up or down. During operation, pressing **153** + **ON** will change the speed to the SLOW mode and pressing **153** + **OFF** will change the speed to the Normal mode.

Holding and pressing **CTRL** and moving the joystick will operate with the TURBO speed mode.

PROPOTIONAL P/T ON / OFF

P/T MODE SLOW / NORMAL / TURBO

SLOW PAN MAXIMUM 19˚- 90˚/second

SLOW TILT MAXIMUM 19˚- 90˚/second

NORMAL PAN MAXIMUM 40˚- 360˚/second

NORMAL TILT MAXIMUM 40˚- 200˚/second

TURBO PAN MAXIMUM 200˚- 380˚/second

TURBO TILT MAXIMUM 90˚- 300˚/second

ORIGIN CHECK When you find the wrong position of the dome during operation, execute this origin check and the dome camera will arrange the right position after the origin check operation.

Pressing **151**+ **ON** will execute will origin check.

4.22 Function Run

This Function Run menu allows you to execute the function when you use a keyboard or a DVR without the function keys (PRESET, PATTERN, TOUR and SCAN).

1. Select the desired Function by pushing **Joystick** Up or Down.
2. Select the number by twist the **Joystick** in PRESET, PATTERN, TOUR and SCAN.
3. Press **CTRL** or **IRIS Open** to execute.

NOTE: To execute the function, you should store the function (PRESET, PATTERN, TOUR and SCAN) first.

- **HOME**

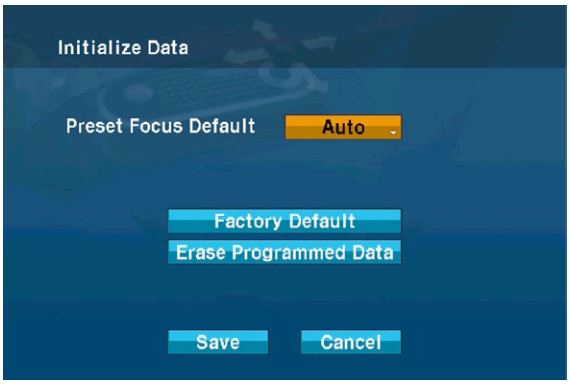
  Select the HOME menu and press **CTRL** key. Then dome camera goes to the default position to which the dome camera returns after an assigned period of inactivity passes. The default position may be a Preset, Tour, Pattern or no action.
- **AUTO PAN**

  You can execute the endless auto pan which is to turn one direction continuously by selectimg the Auto Pan.
- **RELAY OUT**

  This function can operate only when the relay output setup has the time in the alarm menu.

You can select OUT1, 2, 3, 4 and press **CTRL** or **IRIS Open** then that relay operates during the setting time only.

4.23 Initialize Data



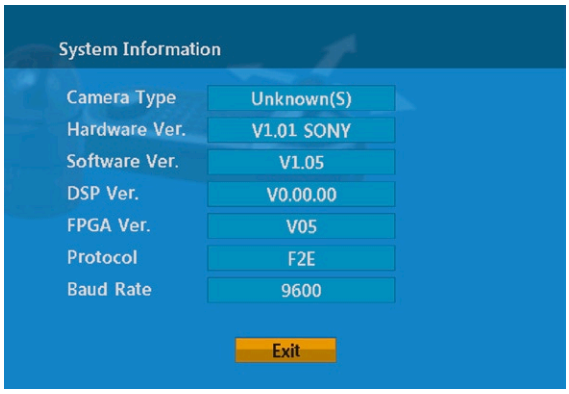
FACTORY DEFAULT Select the Factory Default to initialize the Data.

ERASE PROGRAMMED DATA Erase all stored data from the Flash-ROM of the selected dome camera. You will be asked to enter ON or OFF. If you desire to erase all data then select the Erase Run, otherwise press the **ESC** key to exit without erasing. The erased data includes all stored data (auto scan, presets, and tours….) except origin offset.

The offset value is still valid after all data is erased. The offset value can be zero with default set of Offset origin menu.

AUTO SCAN: ON (Auto scan erase) / OFF
AREA TITLE: ON (Area title erase) / OFF
PRESET: ON (Preset erase) / OFF
PRIVACY ZONE: ON (Privacy zone erase) / OFF
TOUR: ON (Tour erase) / OFF
CAMERA: ON (Camera title erase) / OFF
PATTERN: ON (Pattern erase) / OFF
DOME SETUP: ON (Dome setup erase) / OFF
ALARM: ON (Alarm data erase) / OFF
ERASE: ON (Erase start) / OFF

4.24 System Information



The system information provides essential information about the dome camera if service is required. When you view this screen, you can determine the camera type, ROM version.

The information on this screen cannot be modified.

5. Troubleshooting

If problems occur, verify the installation of the camera with the instructions in this manual and with other operating equipment. Isolate the problem to the specific piece of equipment in the system and refer to the equipment manual for further information.

Problem	Possible Solution
No video	Verify that power is connected to all pieces of equipment in the system. Verify that the power switches are in the ON position. Check the video connections.
Poor video quality	Check that the BNC connectors are inserted properly. Check the voltage level of the dome camera. Check that 8 pin cable is connected to the Keyboard. Check 8 pin cable for Keyboard is proprietary. (Cable for video is shielded.)
Dome cameras lose their positions.	Reset the cameras using the Dome configuration menus. Check that the dome cameras are inserted properly in the base. Check the voltage level of the dome camera.
Camera number does not match the multiplexer number.	Check the camera ID and insert the BNC cable into the proper input of the multiplexer.
Picture is torn when switching	Check Line Lock setting and adjust phase of L/L.

6. Specifications

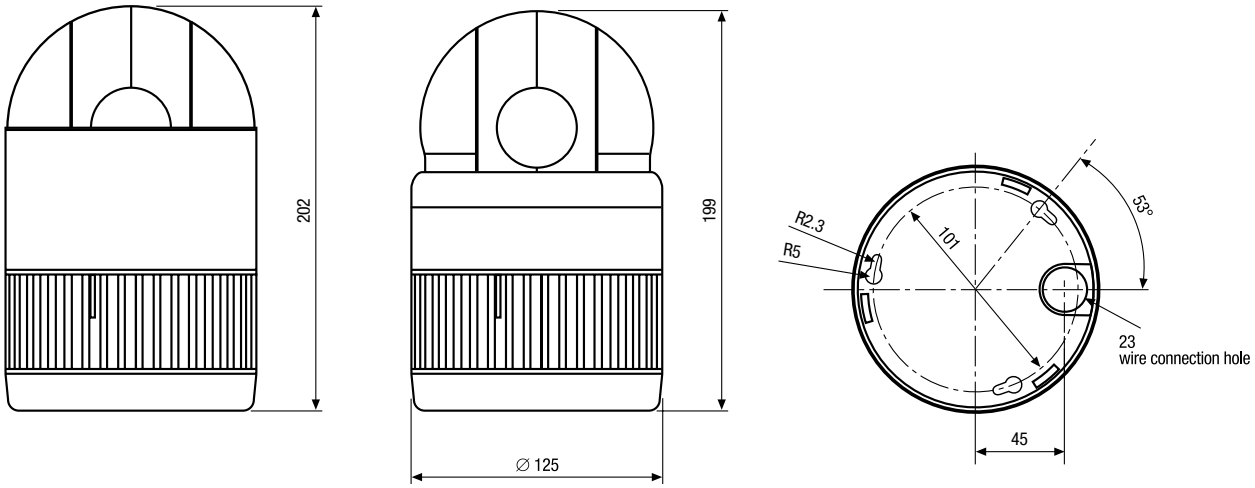
Type	EDC-4222	EDC-4362
Art. No.	74223	74224
Series	eneo Fastrax IV	
Video standard	CCIR/PAL	
System	Day & night	
Sensor size	1/4”	
Imager	CCD, Sony ExView HAD Interline Transfer	
Active picture elements	795(H) x 596(V) pixels	–
Synchronization	Internal/AC line lock, phase adjustment via remote control	
Signal-to-noise ratio	50dB	
Sensitivity (at 50% video signal)	0.29 Lux, (colour) at F1.2 (measured)	0.3 Lux, (colour), 0.1Lux (B&W) at F1.2 (measured)
Exposure modes	Automatic or manual mode, Iris priority, Shutter priority	
Horizontal resolution	580 TVL	540 TVL
Automatic gain control (AGC)	ON/OFF switchable	
Shutter modes	High and Low Speed shutter	
Manual electronic shutter (MES)	1/50 ~1/100,000sec.	1/50 ~1/10.000sec.
Shutter speed (AES/MES)	Automatic/manual: 1 ~1/10,000sec. (PAL)	1/3 ~1/10,000sec. (PAL)
Low speed shutter	yes, 2 ~50 fps.	
Digital Noise Reduction (DNR)	yes, 2D & 3D	no
Flickerless function	yes	–
Mirror function	Horizontal, vertical	180° rotation
White balance	Modes: manually, automatic, indoor, outdoor	Modes: manually, automatic, indoor, outdoor, ATW, AWC
Backlight compensation	BLC, Yes, ON/OFF switchable	BLC, center weighted (ON/OFF switchable)
Wide Dynamic Range (WDR)	yes, ON/OFF switchable	
Aperture Correction (APC)	Horizontal and vertical	
IR cut filter	Switchable	
Speed (manual control)	380 °/sec.	
Speed range at manual control (pan)	0.1° ~380°/sec. (proportional to zoom)	
Speed range at manual control (tilt)	0.1° ~90°/sec. (proportional to the zoom position)	
Preset speed	360 °/sec.	380 °/sec.
Rotation range	360°	
Tilt range	180° (Digital Flip)	
Preset positioning	240 presets with with camera status (12-character title display)	
Freeze function	The image will be frozen during calling preset	
Backlash	0.2°	
Patterns	8 patterns up to 500sec.	
Tours	up to 8 programmable guard tours, consisting of 42 presets each and up to 12 character title display	
Autoscan	16 User programmable auto scans with 13 selectable speeds and 12 character title display	
Proportional pan and tilt	Continually decreases pan and tilt speeds in proportion to depth of zoom	
Auto flip function	Rotates dome 180° at bottom of tilt travel	
Programmable park position	Included	
Auto calibration	yes	
Privacy zones masking	8 zones masking with block or video OFF option	
Zones	16 each with programmable 12 character label	
Video outputs	Composite (CVBS), 1Vp-p, (C)VBS, 75ohms, BNC	
Lens type	Zoom	
Lens	F1.6 (3.6) ~F130/3.9 ~85.8mm (22x optical, 16x digital zoom)	F1.6 ~F75/3.4 ~122.4mm (36x optical, 12x digital zoom)

Type	EDC-4222	EDC-4362
Focal length	3.9 mm - 85.8 mm	3.4 mm - 122.4 mm
Horizontal angle of view	49.5° - 2.4°	57.8° - 1.7°
Digital zoom	16x	12x
Aperture range (F)	F1.6~F3.6	F1.6~F4.5
Focus control	Automatic with manual override	
Iris control	Auto iris, Manual override	DC, auto iris, Manual override
MOD (Minimum Object Distance)	Wide angle (x1 to x4): 10cm; Tele end (x5 to x22): 1.0m	1.0 m
Alarm inputs	4, selectable between NO and NC	8, selectable between NO and NC
Alarm outputs	4	
Alarm processing	–	Programmable alarm action with selectable priority levels
Illumination	no	
Activity detection	yes	
Motion detector	–	In preset mode only
Analysis Functions	Trip wire, motion tracking, enter, left luggage recognition, removal (object disappearing or removing), activity detection	
Menu languages	German, English, French, Italian, Polish, Portugese, Spanish, Russian, Korean, Japanese, Chinese	
OSD function control	4:3/16:9 compression, Zoom (4:3 format only), BIB (Video A/B or Y/C)	
Text display	16 character label	12 character labels
Camera ID	–	Via ID no.
Day / Night Switching	–	Automatic/Day/Night
External adjustments	DIP switch	Menu, ID, Baud rate, Termination and protocol type switches
Operation protection	Available	Password protected
Backup	Non-volatile back box memory stores all camera and site-specific dome settings	
Adresses	Up to 999 Dome ID's	Up to 999 Dome ID's (3999 by software setting)
Keyboard control	Direct mode control with Eneo EDC-KBD(M), KBD-2, KBD-NSC-100 keyboard series, or in conjunction with the eneo DVR series DLR, DTR and DPR	
Remote control	Camera remote settings via keyboard	
Serial interfaces	RS-485, RS-422, 9600Baud (default), 99 camera ID adresses selectable	
Serial interfaces protocols	Fastrax IIE, Pelco P, Pelco D, Coaxitron, Sensormatic RS-422, Vicon, Ernitec, Bosch, Dynacolor	
Temperature range (operation)	0°C ~ +50°C	
Heater	no	
Protection rating	n/a	
Supply voltage	24VAC, (18 ~30VAC), 50/60Hz	
Power consumption	20W	
Vandalism resistant	no	
Bubble	6.3" (160mm), clear acrylic plastic	4.9" (125mm), clear acrylic plastic
Colour (bubble)	Clear	
Mounting	Wall or ceiling pendant mount	Ceiling mount, housing assy
Housing	Outdoor	Indoor
Housing material	Plastic	
Colour (housing)	Black	
Dimensions	See drawing	
Weight	1.25kg	
Certificates	CE	
Special feature	Auto calibration	

Optional Accessories

The optional accessories currently available can be found on our Homepages: www.videor.com and www.eneo-security.com

7. Dimensional Drawings



Dimensions: mm

APPENDIX A – Glossary

Alarm Actions	The assigned responses for the dome camera when inputs change from normal to abnormal states. The dome may run a Preset, Pattern, or have no assigned action for each of the four dome inputs. The dome may also send alarm states to the host controller for processing. See also Input and Normal Input State.
Areas	Programmed start and end points of the dome's field of view around its pan axis. Each area is a part of a circular viewing area that extends around the dome. The areas can be different sizes. Up to 16 areas can be programmed for the dome.
Automatic Gain Control (AGC)	Allows for the amplification of the video signal in scenes with minimal ambient light. Many low-light scenes result in picture noise. As gain is increased, the picture noise is also amplified. When AGC is enabled, the value of the gain setting is based on feedback from the camera. When AGC is disabled, the camera uses the value set for the manual gain setting. The trade-off between picture level and noise may be adjusted when AGC is disabled.
On-screen Menu	The text overlay menu system used for setting dome features. The utility is accessed using a keystroke combination. The utility provides settings for camera functions, zoom, alarms, text display, and password protection.
Flip	Allows the dome to automatically turn 180 degrees when the camera tilts to its lower limit and stays in that position for a brief delay. When the dome flips (rotates), the camera starts moving upward as long as the tilt control is kept in the down position. Once the control is released, the tilt control returns to its normal operational mode. The flip feature is useful when you need to track someone who walks directly beneath of the dome and continues on the other side.
Home Position	The default position to which the dome camera returns after an assigned period of inactivity passes. The default position may be a Preset, Tour, Pattern, or No Action.
Input Alarm	A connection point on the dome camera that enables the system to monitor Input Devices. There are four inputs available for the dome camera.
Input Devices	External devices that provide information about the condition of system components that connect to the inputs on the dome camera. Typical input devices include door contacts, motion detectors and smoke detectors.
IR Mode	A feature of the camera that permits manual or automatic switching between colour and IR (black-and-white) operation. When IR mode is active, clearer images may be obtained under low-light conditions.
Line Lock	Allows you to phase lock the video with the AC power line. When line lock is enabled, it prevents vertical video rolling when switching multiple cameras to a single monitor. If text appears slightly tinted on colour monitors, disabling the line lock may prevent this problem.
Name Information	Relates to the display the dome name, the area where the dome is pointing, the name of the preset or pattern that is running, and alarm names. The display of each type of name setting can be enabled or disabled. When the display of camera or area title (name) is enabled, the information appears on the screen continuously. Preset, tour and pattern titles (names) appear only while they are active.
Normal Input State	Describes the expected state of a device connected to one of eight dome camera's inputs. The normal state may be open or closed. When a device is not in its normal input state, an alarm is issued.
North Position	User-definable setting that may correspond to magnetic north or some well-known landmark. Used to approximate the camera dome's pointing direction when Direction Indicators are enabled.
Slow Shutter	Setting used to improve the quality of video obtained in extreme low-light situations. When the Low Shutter setting is enabled, low-light information is collected over multiple fields based on the Shutter Limit setting. As a result, video may appear blurred or choppy in extreme low-light situations. This setting does not effect camera operation in normal lighting situations.
Pattern	A series of pan, tilt, zoom and focus movements from a single programmable dome. Up to 8 patterns may be programmed for the dome camera.
Preset	Programmed video scene, based on a specific pan, tilt, zoom, and focus settings. Up to 240 presets may be programmed for the dome camera.
Privacy Zones	Masked areas of the dome camera's viewing area. These masks prevent operators of the surveillance system from viewing these designated zones. The Privacy Zones move in relation to the dome camera's pan/tilt position. In addition, the apparent size of the Privacy Zone adjusts automatically as the lens zooms in or out. Up to eight Privacy Zones may be established for a dome camera.
Shutter Limit	Setting used to define the maximum exposure time for the Open Shutter setting. The values for the setting range from 1/2 to 1/60. The default setting is 1/4.
Vector Scan	Move from start point to end point including tilt and zoom simultaneously and linearly.
White balance	Adjustments in the colour hue (red and blue) gains for a camera so that true white appears white in the image. It is normally compensated for by the automatic gain control. In some lighting conditions, you may need to manually adjust the red and blue settings for optimal viewing. When Automatic White Balance is enabled, the camera measures the image and automatically adjusts the red and blue settings to balance white. When Automatic White Balance is disabled, the camera uses the values set for the red and blue settings to balance white.

APPENDIX B – Short Cut Key

Short Cut Key	Function		
PRST	Pop up preset setup menu		
TOUR	Pop up Tour setup menu		
PTRN	Pop up Pattern setup menu		
SCAN	Pop up Auto Scan setup menu		
NO.**+ PGM + PRST**	Store the current view at the selected number		
Short Cut Key	**Function**	**Short Cut Key**	**Function**
1 + ON	Turn On Relay 1	**1 + OFF**	Turn Off Relay
2 + ON	Turn On Relay 2	**2 + OFF**	Turn Off Relay
3 + ON	Turn On Relay 3	**3 + OFF**	Turn Off Relay
4 + ON	Turn On Relay 4	**4 + OFF**	Turn Off Relay
7 + ON	Change FOCUS to AUTO	**7 + OFF**	Change FOCUS to manual
8 + ON	Change AE to AUTO	**8 + OFF**	Change AE to manual
9 + ON	Change Night Shot to AUTO		
10 + ON	Night Shot ON (go to the manual mode)	**10 + OFF**	Night Shot OFF (go to the manual mode)
11 + ON	BLC ON (AE auto mode)	**11 + OFF**	BLC OFF (AE auto mode)
12 + ON	Digital Zoom ON (According to digital zoom setting)	**12 + OFF**	Digital Zoom OFF
13 + ON	Dome OSD ON	**13 + OFF**	Dome OSD OFF
14 + ON	Dome Area Title Display ON	**14 + OFF**	Dome Area Title Display OFF
15 + ON	View Direction ON	**15 + OFF**	View Direction OFF
100 + ON	Shutter speed auto		
101 + ON	Shutter speed 1/4 (PAL 1/3) sec		
102 + ON	Shutter speed 1/2 sec		
103 + ON	Shutter speed 1 sec		
104 + ON	WDR ON	**104 + OFF**	WDR OFF
105 + ON	Image Stabilizer ON	**105 + OFF**	Image Stabilizer OFF
150 + ON	Image Flip ON	**150 + OFF**	Image Flip OFF
151 + ON	Origin Check		
152 + ON	Place the camera in the 0° area horizontally.		
153 + ON	Go to the slow speed mode	**153 + OFF**	Go to the normal speed mode
154 + ON	Display System Information		
155 + ON	Flip the camera in the 180° area horizontally.		
250 + ON	Set the dome ID up to 3999		
888 + ENTER	Night Shot ON (in the global mode only)		
999 + ENTER	Night Shot OFF (in the global mode only)		

Some function may not operate according to the model.

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